



Idaho
White-tailed Deer
Management Plan 2020-2025



Prepared by **IDAHO DEPARTMENT OF FISH AND GAME**
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Executive Summary

The white-tailed deer is a valuable big game species in Idaho. White-tailed deer hunting offers generous opportunity; hunters can pursue white-tailed deer in diverse habitats across the state with a variety of harvest methods. In addition to typical general seasons for bucks, hunters can participate in general seasons for antlerless animals and during the rut in November. Being a highly adaptable species, white-tailed deer can also cause human-wildlife conflicts. Growing populations of both humans and deer

can create conflicts such as agricultural damage, vehicle collisions, and damage to ornamental and landscape plants. Balancing desires of hunters, landowners, and citizens of Idaho, along with needs of the species, is challenging. However, achieving such a balance is a goal of Idaho Department of Fish and Game (IDFG, Department). This Plan provides guidance to IDFG for management of white-tailed deer in Idaho.

The Department was established to preserve, protect, perpetuate, and manage fish and wildlife in the state. Statewide species planning documents provide an overview of current status and set statewide management direction to help fulfill that mission. Revision of the 2005–2014 White-tailed Deer Plan was initiated in October 2018. The planning team included biologists



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from each region in the state. The team identified issues and strategies regarding white-tailed deer management in Idaho and integrated results of a recent white-tailed deer hunter survey to guide development of management objectives.

In 2018, 2,922 white-tailed deer hunters responded to a mail survey designed to assess opinions on a variety of issues associated with white-tailed deer management. An additional 3,757 hunters responded to an email survey and 1,057 hunters

submitted responses via the internet. In contrast, 740 deer hunters responded to a similar mail survey in 2003. The 2018 survey was designed to maximize ability for comparisons with findings from 2003. Overall, white-tailed deer hunters in Idaho indicated they were satisfied with their hunting opportunities and experiences, and satisfaction levels increased compared to 2003. Satisfaction levels with opportunities to harvest deer (any whitetail, whitetail buck, and mature whitetail buck) also increased since 2003. Similarly, significantly more hunters voiced satisfaction regarding amount of access, length of season, number of hunters, quality of experience, and timing of season than those who indicated some level of dissatisfaction. When asked, “Is there anything else you’d like to tell us about hunting white-tailed deer in Idaho?” the most



White-tailed Deer CCBY IDFG

frequent response indicated hunters support current white-tailed deer management.

Despite overall satisfaction of hunters, IDFG recognizes there are contending desires. Some hunters may desire more opportunities to hunt mature bucks or hunt with special weapons, whereas harvesting a deer for food may be more important to others. To meet demands of the broad spectrum of deer hunters, this Plan will provide a framework for implementing a diversity of hunting experiences.

Increasing hunter congestion, including number of nonresident hunters, was a concern for some respondents to the 2018 Idaho White-tailed Deer Hunter Survey. Increased hunter density has likely been fueled by a steadily increasing white-tailed deer population and a corresponding increase in hunters drawn to greater harvest opportunities. Even so, most white-tailed deer hunters were either satisfied (46%) or neutral (28%) with regard to number of hunters encountered during their 2017 hunting experience; only 7% of deer hunters were very dissatisfied with hunter density. The Department is committed to addressing hunter congestion in a comprehensive fashion and will be contacting hunters in 2020–2023 to gauge their desire and tolerance for various solutions (see Hunter Congestion Concepts in Appendix C).

To better understand white-tailed deer populations, a research plan has been developed to assess population parameters in northern Idaho. The secretive nature of white-tailed deer and densely vegetated habitats they occupy severely limit IDFG's ability to estimate population size and composition. Aerial surveys and other traditional approaches, such as spotlight surveys and pellet transects, provide inaccurate and imprecise indices. Therefore, managers need a cost-effective, reliable method to quantify population composition and abundance to measure outcomes of management actions and better communicate with Idaho's public regarding white-tailed deer management. Although white-tailed deer have been the focus of extensive research, most work was conducted in eastern and mid-western states; applicability of such research to Idaho and changing environmental conditions over time is uncertain. Staff have initiated research to investigate cause-specific mortality, alternative measures of buck size and age structure, more efficient methods for monitoring populations, buck vulnerability, and additional techniques to prevent agriculture depredation. Information gained from this research will guide IDFG in future management of white-tailed deer.

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Introduction



White-tailed Buck CC BY IDFG

Intent

Intent of the 2020-2025 White-tailed Deer (*Odocoileus virginianus*) Management Plan (Plan) is to:

- Convey Idaho Department of Fish and Game (IDFG, Department) goals, as well as strategies designed to achieve those goals
- Assist the Idaho Fish and Game Commission (Commission) in developing policies, priorities, and direction for white-tailed deer management
- Provide direction to IDFG staff in developing and implementing the state's white-tailed deer management program
- Assist others in developing plans and implementing programs that support or are compatible with white-tailed deer conservation and management
- Encourage a cooperative approach to address white-tailed deer management issues in Idaho

This Plan will remain in effect until revised (scheduled for 2025).

Authority

This white-tailed deer Plan provides the basis for Idaho's management of white-tailed deer as mandated by the Wildlife Policy of Idaho and Mission Statement for IDFG, contained in Idaho Code 36-103:

"All wildlife, including all wild animals, wild birds, and fish, within the state of Idaho, is hereby declared to be the property of the state of Idaho. It shall be preserved, protected, and managed. It shall only be captured or taken at such times or places, under such conditions, or by such means, or in such a manner, as will preserve, protect, and perpetuate such wildlife, and provide for the citizens of this state and, as by law permitted to others, continued supplies of such wildlife for hunting, fishing, and trapping."

Statewide Management Direction

This Plan is consistent with IDFG's 2015 Strategic Plan, including management directions (Table 1).

Table 1. IDFG Strategic Plan objectives and corresponding white-tailed deer management direction.

Strategic Plan objectives	White-tailed deer management direction
Maintain or improve game populations to meet demand for hunting, fishing, and trapping	Develop biological studies to estimate population abundance, predator impacts and habitat management capabilities
	Implement proactive population management measures to minimize white-tailed deer depredations
	Explore strategies to develop population age structure and antler conformation metrics
	Implement regulations to ensure illegal harvest is minimized and harvest by regulated hunting is maintained
	Manage white-tailed deer populations commensurate with habitat capability
Increase capacity of habitat to support fish and wildlife	Engage with land management agencies and user groups to improve quality and quantity of white-tailed deer habitat throughout Idaho
	Increase IDFG involvement in long- and short-term land-use planning efforts by providing information, analysis, and recommendations to improve and preserve white-tailed deer habitats
	Implement and support programs that provide incentives for landowners to improve white-tailed deer habitat on private lands
	Encourage habitat enhancement projects that reduce or eliminate white-tailed deer damage to agricultural or ornamental plantings
Eliminate impacts of fish and wildlife diseases on fish and wildlife populations, livestock, and humans	Improve monitoring to minimize influence of disease as a limiting factor in white-tailed deer populations
	Implement IDFG's Strategy for Chronic Wasting Disease (CWD; IDFG 2018a)
Maintain a diversity of fishing, hunting, and trapping opportunities	Continue to offer annual hunting opportunities
	Provide a diversity of hunting opportunities, including socially desirable and biologically sustainable levels of antlerless and mature buck opportunity
	Assess hunter desires for different types of white-tailed deer hunting opportunities
Increase variety and distribution of access to private land for hunting, fishing, and trapping	Provide incentives and services to landowners who allow public access for white-tailed deer hunting

Strategic Plan objectives	White-tailed deer management direction
Maintain broad public support for hunting, fishing, trapping, and viewing	Emphasize ethics, safety, and fair chase through IDFG education and enforcement programs
	Provide support to landowners in alleviating and preventing white-tailed deer damage to growing or stored crops
	Use research and marketing to recruit and retain white-tailed deer hunters in Idaho
	Provide technical assistance and permits to local municipalities to address urban deer issues
Improve citizen involvement in the decision-making process	Utilize available information platforms, such as social media and web-based applications, to broaden participation in proposal development and agency decision making
	Use hunter opinion surveys to measure hunter satisfaction and inform white-tailed deer management decisions
Increase public knowledge and understanding of Idaho's fish and wildlife	Use information technologies to improve public outreach
	Provide biological and harvest information as a basis for informing the public about recreational opportunities and important news about white-tailed deer in Idaho

Results from Previous Planning Period

The previous planning period (2005–2014) emphasized recreational opportunity and hunter days while maintaining availability of mature bucks for harvest (Table 2). Overall management direction was to maintain levels of recreational opportunity, while also achieving management objectives. The state was divided into 7 Data Analysis Units (DAUs). Objectives for hunter numbers, hunter days, buck harvest, and proportions of bucks with ≥ 5 points in the harvest were established for each DAU.

Table 2. Summary of statewide accomplishments from 2005–2014 planning period.

Management direction	Statewide objective	Results	Conclusions and recommendations
Maintain recreational hunting opportunity	$\geq 35,000$ hunters/year $\geq 207,000$ hunter days/year	Average for last 3 years: 57,424 hunters 406,896 hunter days	Continue to offer adequate amounts of general hunting to accommodate demand for annual hunting opportunity
Achieve statewide buck management objectives	Harvest $\geq 8,700$ bucks/year $\geq 15\%$ of harvested bucks with ≥ 5 points	Average for last 3 years: 16,480 bucks harvested 20% of harvested bucks with ≥ 5 points	Develop population monitoring techniques to include buck antler size Provide diverse buck hunting experiences

Management direction	Statewide objective	Results	Conclusions and recommendations
Provide opportunities to harvest larger proportion of mature bucks in some areas	In Northern Forest and Northern Agriculture DAUs $\geq 17\%$ of harvested bucks with ≥ 5 points (other DAUs remain at 10%)	Average for last 3 years: 20% and 22% of harvested bucks with ≥ 5 points in Northern Forest and Northern Agriculture DAUs	Some hunters have requested additional opportunities for mature buck management and hunting opportunities
Eliminate Clearwater Deer Tag	Create a White-tailed Deer Tag	Created White-tailed Deer tag and expanded opportunities statewide	New tag provided more flexibility for hunters while minimizing trespass issues in northern Idaho
Continue management that results in high hunter satisfaction	Survey hunters to understand their desires and experiences	Satisfaction levels for harvest opportunity increased between 2003 and 2018	Overall, hunters are satisfied with their hunting opportunity and experiences but some issues still remain
Improve quality of white-tailed deer harvest data	Modify mandatory harvest report system to better evaluate harvest information	In 2016 IDFG modified harvest survey to better evaluate harvest data	Need to develop additional methods to assess age and antler conformation of harvested bucks
Explore additional opportunities to reduce deer depredations on private property	Increase youth and extra antlerless hunting opportunities to address depredation issues on private land	Since 2006, 5 extra antlerless youth hunts and 19 extra antlerless controlled hunts have been added across the state, primarily on or within 1 mile of private agricultural land	Additional efforts are required to address white-tailed deer depredations and hunter access on private lands
Improve hunter access onto and through private land	Increase hunter access	In 2017 there were 13 Access Yes! agreements providing access to 110,000 acres of white-tailed deer habitat	Additional agreements are being developed with Idaho Department of Lands (IDL) and corporate timber companies to maintain public access to hundreds of thousands of acres of white-tailed deer habitat
More focus on white-tailed deer habitat	Produce habitat management guidelines	Staff developed habitat management guidelines	Work with land management partners and private land owners to consider white-tailed deer in conservation planning

Plan Development

Revision of the 2005–2014 White-tailed Deer Plan was initiated in October 2018. The planning team included biologists from each region in the state. The team identified issues and strategies regarding white-tailed deer management in Idaho and integrated results of a recent white-tailed deer hunter survey to guide development of management objectives.

In 2018, 2,922 white-tailed deer hunters responded to a mail survey designed to assess opinions on a variety of issues associated with white-tailed deer management. An additional 3,757 hunters responded to an email survey and 1,057 hunters submitted responses via the internet. In contrast, 740 deer hunters responded to a standard mail survey in 2003 (see Appendix A and B).

For consistency with 2003 methodology, we stratified 2018 responses based on general areas where individuals hunted during 2017: northern Idaho (Regions 1 or 2), southern Idaho (Regions 3–7), or did not hunt white-tailed deer during 2017. The 2018 survey specifically targeted white-tailed deer hunters when sampling hunters. At the time of the 2003 survey, we could not effectively discern between white-tailed deer hunters and mule deer (*O. hemionus*) hunters for sampling purposes. As a result, more individuals who considered themselves primarily mule deer hunters were included in the sampling frame in 2003 than in 2018. To make more meaningful comparisons between surveys, we limited analysis of 2003 data to individuals who self-identified as primarily white-tailed deer hunters ($n = 392$ individuals).

The draft Plan was completed during May 2019 and made available for comment on IDFG's website for 31 days. An email encouraging deer hunters to comment on the Plan was sent to nearly 79,000 people, both residents and nonresidents. The draft Plan was viewed by 3,873 people and 228 of these individuals provided comments. Most respondents (95%) were Idaho residents. Public opinion on the draft Plan was also solicited through 11 open houses held

throughout the state. The Commission approved this Plan on August 22, 2019.

Economic Importance of White-tailed Deer

Every 5 years the U. S. Fish and Wildlife Service (USFWS) surveys hunters, anglers, and wildlife watchers across the country to estimate participation in wildlife-related recreation. In 2016 USFWS (2018) estimated 11.5 million hunters devoted 184 million days to hunting and spent \$26.2 billion on trip-related expenses. The majority of hunters (9.2 million) pursued deer, elk (*Cervus elaphus*), black bear (*Ursus americanus*), and wild turkey (*Meleagris gallopavo*). Trip and equipment expenditures totaled \$14.9 billion, or approximately \$1,619/hunter. Among big game species, deer was the most popular animal pursued, attracting 8.1 million hunters who were afield for 115 million days. Those hunters spent roughly \$13.1 billion pursuing deer across the entire country.

Similar to other states with abundant deer populations, white-tailed deer hunting is important to Idaho's economy. Based on expenditures from the USFWS (2018) survey, white-tailed deer hunters annually spent nearly \$93 million on their hunts in Idaho from 2016 to 2018.



White-tailed Bucks CCBY IDFG



White-tailed Deer Management

Idaho is bordered by 6 states and 1 Canadian province. The primary concentration of white-tailed deer in these jurisdictions occurs contiguously across northern Idaho, northeastern Washington, northwestern Montana, and southeastern British Columbia. Southern British Columbia marks the northern extent of western white-tailed deer distribution. Few, if any, white-tailed deer occur as far south as northern Utah and Nevada. Elsewhere, white-tailed deer distribution is patchy in adjacent states. In Wyoming, white-tailed deer occur primarily in the Black Hills region (northeastern corner) and some agricultural- and riparian-dominated areas elsewhere. Most white-tailed deer in Oregon occur in the northeastern portion of the state (2 relatively small populations of Columbian white-tailed deer [*O. v. leucurus*] occur in western OR).

Of the 8 jurisdictions mentioned above, only Idaho and Washington currently have management plans specifically for white-tailed deer. This Plan constitutes the sixth version of Idaho's white-tailed deer plan. Washington implemented their first white-tailed deer plan in 2010 (WDFW 2010). In Montana, 2 comprehensive reports, which summarized ecology and management of deer, function as de facto management plans (i.e., Ecology and management of mule deer and white-tailed deer in Montana [Mackie et al. 1998]; and White-tailed deer studies in the Salish Mountains, Northwest Montana [MFWP 2006]).

In northwestern states and provinces where white-tailed deer live predominantly in dense, multi-storied coniferous habitats, managers have consistently found traditional aerial survey techniques do not produce reliable data. Because complete population censuses are typically impractical, expensive, and often impossible, all above-mentioned jurisdictions have relied on monitoring approaches driven by harvest data to manage white-tailed deer. Fortunately, populations can be reliably monitored and managed using harvest data to assess population



White-tailed Buck CCBY IDFG

status and trend. Additionally, harvest trend can be augmented with various measures of a particular population's vital rates to address specific issues or concerns.

Distribution and Abundance in Idaho

The subspecies of white-tailed deer found in Idaho is *Odocoileus virginianus ochrourus*, the northwest white-tailed deer. They are abundant north of Salmon River and are found along major riparian areas in southern Idaho (Fig. 1).

White-tailed deer abundance varied from low numbers in the late 1800s to a peak in the 1960s. Declines observed in the 1970s were likely a consequence of heavy harvest and declining habitat quality as forest stands aged. Populations increased again during the 1980s and early 1990s in north-central and northern Idaho. The winter of 1996–97 was one of the most severe on record and white-tailed deer populations in portions of Panhandle and Clearwater regions declined substantially. In more recent years, sporadic severe winters likely resulted in above-average winter mortality rates, primarily in Panhandle Region. However, current populations in some areas of northern Idaho may be approaching levels of peak abundance similar to the 1950s and 1960s, particularly near agricultural areas.

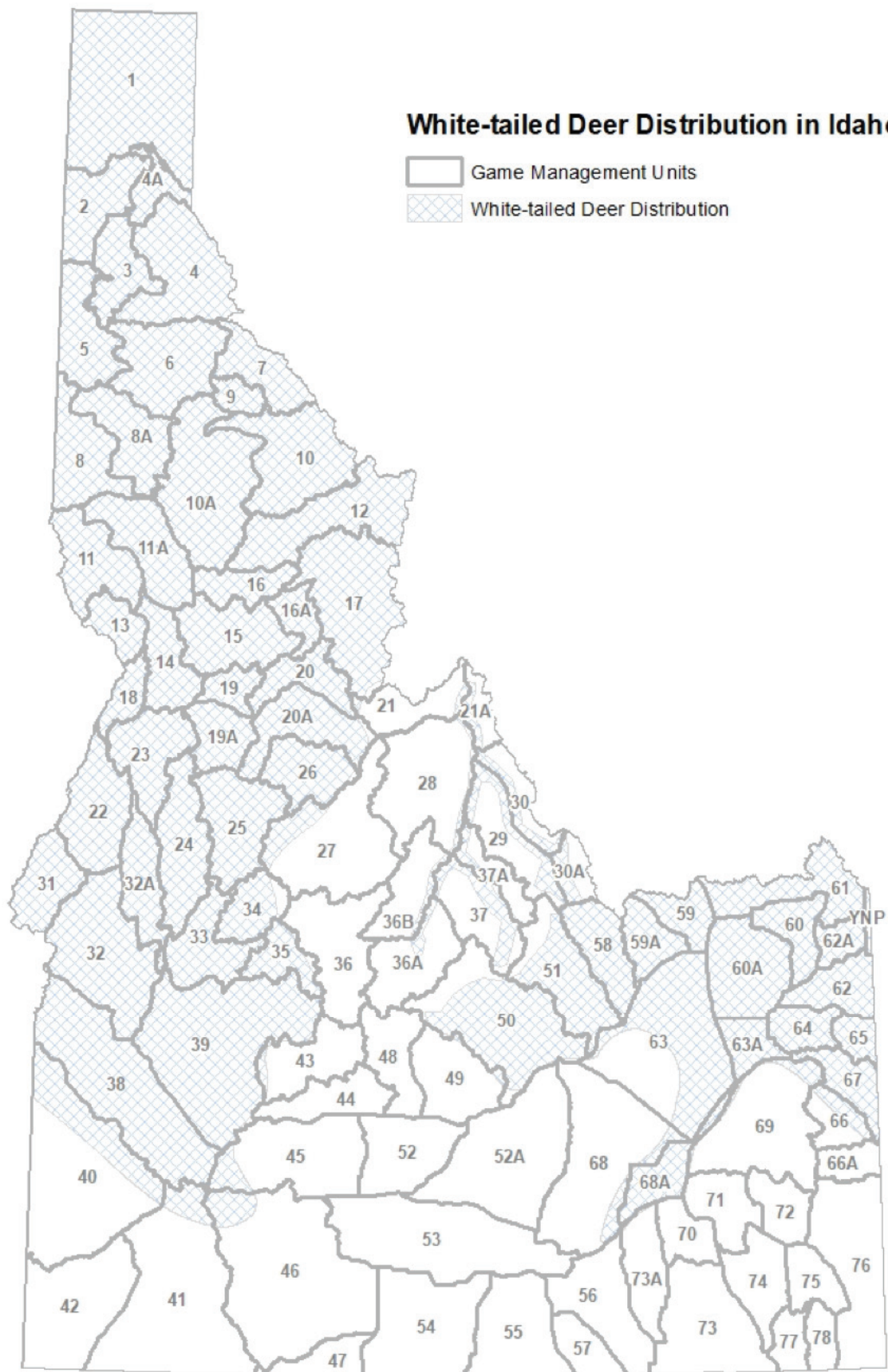


Figure 1. White-tailed deer distribution in Idaho.



Doe and Fawns CCBY IDFG

Population Dynamics

White-tailed deer generally breed in mid- to late November, with fawns born late May to early June. Twins are common, and fawn recruitment is most affected by winter weather and predation. Primary natural causes of mortality for adults are disease and predation. Interactions with other ungulates occur throughout Idaho, but in most cases do not have significant adverse effects on white-tailed deer populations.

Survival

The 3 most prominent natural factors affecting white-tailed deer survival in Idaho are winter weather, predation, and disease. Snow depth is a major influence on population dynamics of white-tailed deer in northernmost portions of their distribution, including most of Idaho. In northwestern Montana, approximately 70% of white-tailed deer died during the severe 1996–97 winter, including >90% of fawns (C. Sime, MFWP, personal communication). In northern Idaho, annual natural mortality, including predation and weather-related losses, averaged 10% for does and 23% for bucks from 1986 through 1995 (IDFG, unpublished data).

Predation

Predation is an important influence on population dynamics of white-tailed deer in Idaho. The most

common predators of white-tailed deer include coyotes (*Canis latrans*), bobcats (*Lynx rufus*), black bears, mountain lions (*Puma concolor*), gray wolves (*Canis lupus*), and domestic dogs. Predation by black bears is primarily seasonal (i.e., on young fawns) or opportunistic, but predation by mountain lions and wolves occurs throughout the year and likely increases during winter when deer are most vulnerable due to deep snow and reduced body condition. Impacts of predation on white-tailed deer populations depend on a suite of dynamic factors, including number of predator species, predator density, deer habitat quality, winter severity, and availability of alternate prey species.

Survival of fawns strongly influences population size of white-tailed deer the following year. Survival of fawns in Idaho is heavily influenced by energetic demands on females during the previous winter, summer nutrition, predation, and energetic demands during their first winter.

Predator management is an extremely complex issue from biological, sociological, and economic standpoints. Appropriate implementation of predator control programs can be an important tool under some circumstances, but analyses of cost:benefit, social acceptance, and biological significance rarely justify widespread application. The Commission implemented a “Policy for Avian and Mammalian Predation Management”

(IDFG 2000) to guide agency implementation of predator management activities. Generally, intensive studies are required to understand all potential limiting factors to a population to assess whether predation management is likely to be effective. The Department is initiating research to investigate and improve our understanding of factors that influence population changes in white-tailed deer in Idaho (see Research section).

Disease

Disease issues in white-tailed deer are multifaceted and can be very complex. In general, white-tailed deer are the most-studied, free-roaming ruminant in the U. S. Extensive disease investigations and documentation occurred in most parts of the country where white-tailed deer reside.

Historically, IDFG did not actively target white-tailed deer for disease or parasite surveillance. Evidence of disease was obtained opportunistically and information is therefore limited. Foreyt and Compton (1991) found no evidence of meningeal worm (*Parelaphostrongylus tenuis*) in northern Idaho. A small number of samples were tested for bluetongue virus (BT) antibodies with positive results (MacLachlan et al. 1992).

At this time, primary diseases of concern in white-tailed deer in Idaho are epizootic hemorrhagic disease (EHD) and BT. Although occurrence of BT is likely sporadic, EHD is often present at low levels within white-tailed deer populations in Idaho. Tests from mule deer and elk indicated EHD or BT exposure in 10–20% of animals. White-tailed deer, as a primary host to the virus, are likely exposed at a higher rate. The largest outbreak of EHD in Idaho occurred during late summer through autumn of 2003 in the Kamiah area of Clearwater Region when an estimated 5,000–10,000 deer died. Isolated outbreaks of EHD were documented in white-tailed deer in Clearwater Region during most years since the initial outbreak in 2003. Several small outbreaks of BT in white-tailed deer have been documented in Panhandle Region since 2004.

Although currently not found in Idaho, CWD may pose problems in the future. The disease, caused by a prion (abnormal protein), has been documented in all native cervids in North America. Distribution of CWD in the U. S., particularly in white-tailed deer, is increasing, warranting continued surveillance in Idaho. Monitoring and response to CWD is guided by a recent revision to IDFG's Strategy for CWD (IDFG 2018a).

Meningeal worm has not been documented in white-tailed deer in Idaho but is considered a common parasite of white-tailed deer in central and eastern U. S. This parasite typically does not cause mortality in white-tailed deer, but the neurologic disease caused by meningeal worm can be fatal in other cervid hosts (e.g., moose, elk, and mule deer). In some states where infected populations of white-tailed deer overlap moose populations, white-tailed deer are managed at lower densities to reduce potential impact of meningeal worm infections on moose populations.

Disease transmission between domestic cervids and wild white-tailed deer is a concern. Several diseases and parasites are known to occur in domestic elk in parts of North America, but not in free-ranging white-tailed deer in Idaho. These include giant liver fluke (*Fascioloides magna*), CWD, and meningeal worm. Giant liver fluke was found on an elk farm in Upper Snake Region and another in Magic Valley Region. All domestic elk in Idaho must be tested for CWD at death; none have tested positive to date. Meningeal worm is present in captive elk in eastern and mid-western states, but has not been reported in Idaho. Domestic and wild cervids interact in Idaho, both through wild cervids entering game farms and escapes of domestic cervids. Generally, wild cervids found within domestic cervid farms are lethally removed, but response depends on a risk assessment jointly conducted by IDFG and Idaho Department of Agriculture. Risk assessment includes evaluating number of animals involved, extent and time of contact, record keeping, and previous presence or absence of disease. There are currently 2 captive white-tailed deer facilities in Idaho. These facilities and continued



White-tailed Buck CCBY IDFG

importation of white-tailed deer represent potential sites for disease introductions and genetic contamination.

Diseases such as CWD, EHD, and tuberculosis (TB) are prominent on a national scale. Information is lacking, however, on exposure and importance of these and other diseases to white-tailed deer in Idaho. Although 1,932 white-tailed deer from Idaho were tested for CWD from 1998 to 2016, prior to 2019, only a small number of white-tailed deer were tested for other diseases.

Population Dynamics Management Direction

Management Direction - Develop biological studies to estimate population abundance, predator impacts, and habitat management capabilities.

Strategy: Implement research to estimate adult female and fawn survival rates, document causes of mortality and predation rates to better understand predator-prey interactions, and investigate roles of habitat type and quality in predator-prey relationships (see Research section).

Strategy: As additional information about white-tailed deer mortality becomes available through ongoing research, incorporate findings into future management decisions.

Management Direction - Improve disease monitoring to better understand influences of disease as a limiting factor in white-tailed deer populations.

Strategy: Collect biological samples from all white-tailed deer captured by IDFG personnel.

Strategy: When feasible, collect and analyze biological samples from all white-tailed deer that appear ill or have died from disease.

Strategy: As information becomes available and circumstances necessitate, develop strategies to reduce or eliminate disease and parasite prevalence and risk of spread.

Management Direction - Implement Strategy for CWD (IDFG 2018a).

Strategy: Collect sufficient biological samples to achieve 95% probability of detecting a 1% prevalence of CWD. Collect samples on a rotating schedule, according to Strategy for CWD (IDFG 2018a).

Strategy: If CWD is found in white-tailed deer or other cervids in Idaho, implement an adaptive management plan as outlined by the Strategy for CWD (IDFG 2018a).



White-tailed Doe CCBY IDFG

Habitat

White-tailed deer are highly adaptable generalists which utilize diverse habitats across the landscape. Nevertheless, because of seasonal changes in weather, forage availability, and nutritional demands, white-tailed deer require a different mix of habitat components at different times of year.

Habitat use is determined by energetic demands of deer throughout the seasons. These demands consist of recovering body condition and supporting fawn development from spring to autumn, and minimizing energy loss over winter when caloric demand often exceeds available forage resources. In spring, deer utilize low-elevation burned areas, riparian habitats, clear cuts, south- and west-facing slopes with open canopies, and agricultural areas to recover lost condition and replenish energy reserves. In summer, deer may follow green-up to higher elevations, while continuing to make extensive use of clear-cut edges, burns, and open forest areas. Deer may also remain in low-elevation habitats that provide adequate combinations of browse and cover throughout the year.

Although availability and quality of winter range are often considered a critical population “bottleneck” (because most mortality occurs in winter), adequate accumulation of energy reserves during summer is at least as critical as winter range availability and quality. Condition of deer entering winter strongly influences their ability to survive (Ozoga and Verme 1970, Taillon et al. 2006, Tollefson et al. 2011). Further, quality of summer range is linked to productivity, recruitment, and growth rates in deer (Cheatum

and Morton 1946, Cheatum and Severinghaus 1950, Julander et al. 1961, Verme 1963).

Characteristics of ideal winter range vary somewhat with winter severity. At more northern latitudes, white-tailed deer generally remain below 3,000 feet in dense conifer stands, which provide superior shelter qualities during harsh winters (Pauley et al. 1993, Poole and Mowat 2005). White-tailed deer in southern Idaho typically frequent thickly vegetated riparian areas and productive cottonwood (*Populus* spp.) galleries along river corridors year-round. Although some populations of mule deer in southern Idaho make long seasonal migrations from summer to winter habitat, white-tailed deer more often make smaller movements along an elevation gradient.

Maintaining a patchwork of habitats at local scales is critical to retaining productive white-tailed deer populations. White-tailed deer need a mix of different habitat components, such as areas of high-quality forage during summer and forest cover during winter. Having a mosaic of habitat components on the landscape is often dependent on and maintained by different types of disturbance. Before European settlement in Idaho, natural processes shaped the landscape. Today, human activities largely control types and distributions of habitat through activities such as timber harvest, fire suppression, prescribed fires, land-use conversion, etc. Even though some of these activities have potential to mimic natural disturbances and are important in maintaining productive white-tailed deer habitat, balancing production of different habitat components is essential. Appropriate balance can be achieved by selectively influencing ecological succession with fire and timber management, limiting

impacts of invasive species, and promoting wildlife needs during planning for land management and development projects.

Ecological succession is the process of changes in species composition, vegetation structure, and maturation of a plant community over time. Consideration of succession is critical because ability of a landscape to support white-tailed deer dramatically varies with changes in habitat. Typically, most forage in late-successional or climax forest systems is out of reach for terrestrial herbivores or dominated by shade-tolerant understory plants with low nutritional value. Nevertheless, mature forests are an important component in a habitat mosaic with early to mid-seral stands as they provide critical cover during winter. Early seral habitats benefit many wildlife species, including white-tailed deer, because overall plant diversity and forage quality is generally greater. Maintaining a patchwork of mature and early-seral stands provides a diversity of travel routes, screening and security cover, and browse. As such, disturbance sufficient to periodically reset succession is essential to maintaining high-quality white-tailed deer habitat. However, natural disturbance and successional processes are altered on industrial timber lands subject to post-harvest herbicide applications. This practice, employed to reduce competition between broad-leafed shrubs and newly planted or naturally regenerated conifer seedlings, can temporarily eliminate or reduce early seral stages that benefit white-tailed deer.

Wildfire is a natural disturbance mechanism that drives succession and composition of plant communities. Succession of vegetation after fires typically provides a period of excellent forage and cover availability for deer. Current wildfire frequency and intensity have departed significantly from historical regimes throughout many forest communities occupied by white-tailed deer. Intense and severe wildfires, driven by abnormally heavy fuel loads (caused by

decades of fire suppression), result in vast areas that recover slowly and remain unusable to deer for long periods of time.

Similar to wildfire, sustainable timber management practices can benefit white-tailed deer by creating a landscape-level mosaic of seral stages through distribution of harvest over time (Barkley et al. 2015). Timber harvest can simulate natural disturbance regimes when conducted at appropriate spatial scales and harvest intervals. However, conflicts can arise when forests are managed such that landscapes trend away from natural ranges of variability with respect to stand age structure, patch size, and species composition. These forests are often highly fragmented by high road densities, which increase white-tailed deer vulnerability due to increased human activity. Furthermore, increased road densities result in spread of invasive plants, some of which negatively affect habitat quality for native species (Trombulak and Frissell 2000, Flory and Clay 2009).

During the public comment period, some constituents expressed concerns that timber harvest on industrial forests has significantly increased in recent years, negatively impacting habitat and deer abundance. To address this concern, IDFG reviewed long-term timber harvest data for private, state, and federal lands in Idaho. At the statewide scale, timber harvest on private lands changed relatively little over the last 50-70 years (Fig. 2; Pokharel et al. 2019). Timber harvest

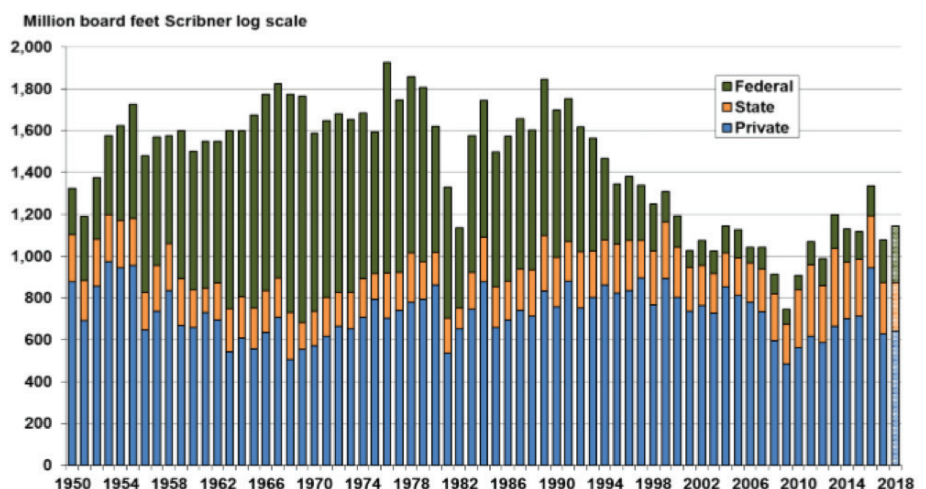


Figure 2. Timber harvest by ownership, Idaho, 1950-2018 (Pokharel et al. 2019). Harvest in 2018 estimated based on first 3 quarters.

on state lands increased somewhat, but state-managed land comprises a small proportion of forested habitat. The largest change has been a decline in timber harvest from federal lands since the mid-1990s, which strongly contributed to overall reductions in harvest. The Department recognizes timber harvest can be intensive at a local scale (e.g., within a stream basin), resulting in dramatic habitat changes at that scale, and potentially affecting deer numbers in localized areas. At the same time, most forest practices result in stimulation of forage growth and other beneficial habitat features, and in a mosaic of habitat types. Habitat changes brought about by sustainable forestry generally benefit white-tailed deer at the landscape scale. White-tailed deer are habitat generalists well suited to, and somewhat dependent on, periodic habitat disturbances which re-initiate forest succession. Habitat changes associated with timber harvest typically provide high-quality deer habitat within 5–10 years.

Habitat Management Direction

Management Direction - Engage with land management agencies, tribes, and user groups to improve quality and quantity of white-tailed deer habitat throughout Idaho.

Strategy: Work with public land management agencies, tribes, timber companies, and other groups to encourage management of landscapes to achieve a mix of early seral habitat, dense mature forests, and security areas.

Strategy: Include white-tailed deer habitat needs as part of forest collaborative projects.

Management Direction - Increase IDFG involvement in long- and short-term land-use planning efforts to improve and preserve white-tailed deer habitats.

Strategy: Provide information, analysis, and recommendations during forest plan revisions, timber sale proposal evaluations,

and other major land-use planning efforts to benefit white-tailed deer.

Strategy: Continue to provide technical assistance to public land management agencies to promote and enhance white-tailed deer habitat; annually coordinate with USFS.

Strategy: Work with IDL to evaluate potential road closures to benefit white-tailed deer and other wildlife species.

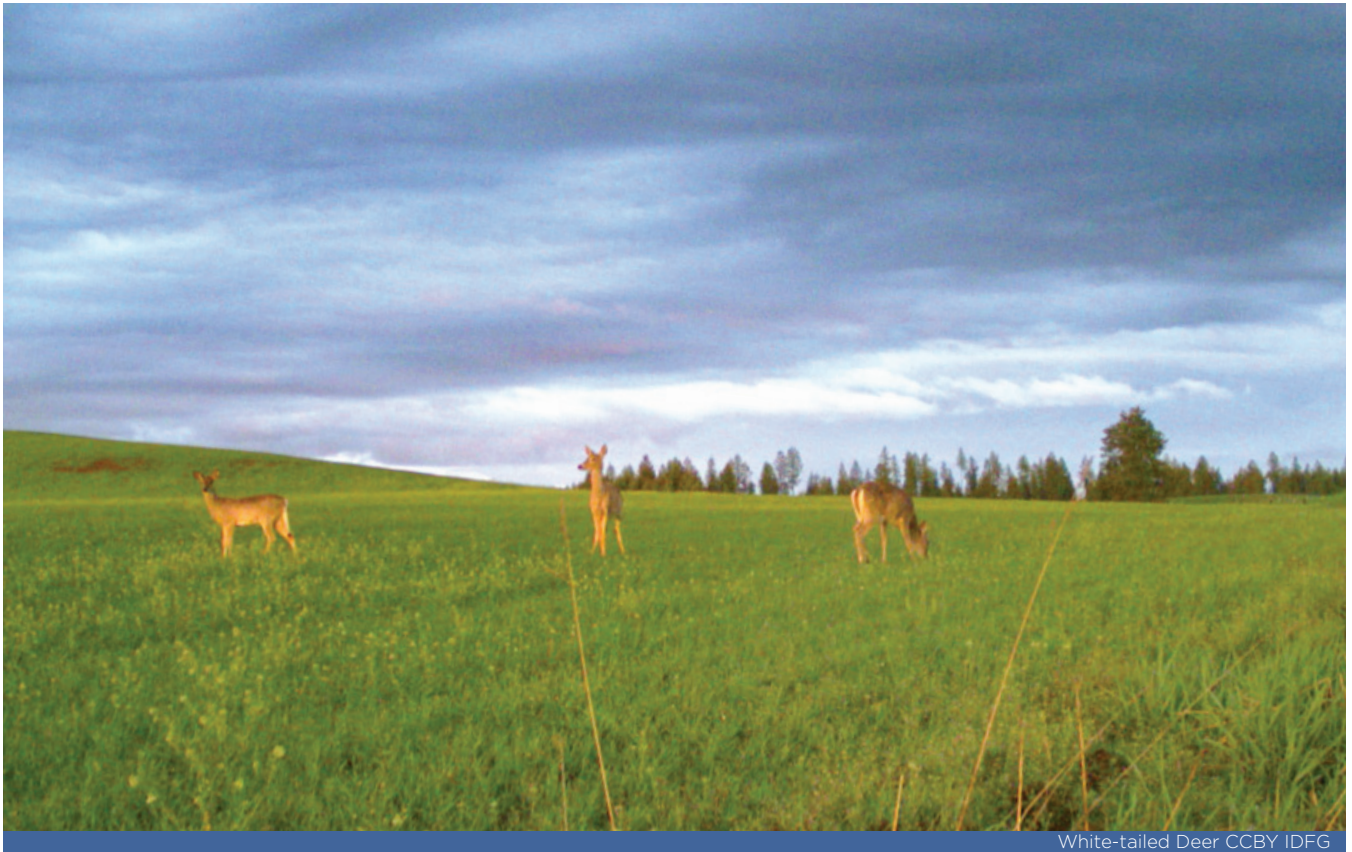
Management Direction - Implement and support programs that provide incentives for landowners to improve white-tailed deer habitat on private lands.

Strategy: Provide technical assistance to promote and enhance white-tailed deer habitat on private lands.

Strategy: Work with private landowners to encourage management of landscapes to achieve a mix of early seral habitat, dense mature forests, and security areas.



White-tailed Buck CCBY IDFG



White-tailed Deer CCBY IDFG

Agriculture and Urban Deer

In 2017 Idaho was the fastest growing state in the Union (USCB 2017). Private land encompasses approximately 15,889,080 acres (29.7%) of the state (IDPR 2013) and can play an important role in all segments of the life cycle of white-tailed deer. Private lands provide food from agriculture commodities as well as safety from extensive hunting pressure.

Department concerns stem from large numbers of white-tailed deer in some areas of predominantly private land that periodically experience significant damage to agricultural crops. These situations are often associated with drought conditions, deep snow, wildfire, or areas where cropland is adjacent to deer habitat. Diverse objectives of private landowners make many management strategies ineffective on these de facto refuges. Urban and suburban settings also act as refuges that negate many management strategies. Many urban-suburban landowners feed and enjoy viewing deer, whereas others are frustrated with damage to landscaping and gardens.

Idaho Code 36-1108 identifies statutory requirements and appropriate actions IDFG must take to address depredation situations. For more information about depredation management please refer to A Landowner's Guide to Preventing Big Game Damage and Filing Damage Claims (IDFG 2018*b*). The Department works cooperatively with private landowners to provide suitable alternatives or solutions to address depredations by deer. Hazing, permanent fencing, harvest season structure, depredation hunts, kill permits, continued-use agreements, and perpetual easements are just some tools incorporated into depredation management strategies.

In 2017 IDFG received additional funding to address depredation through legislative action, allowing the Department to take a much more proactive approach to managing depredation. For example, during the first 2 years of additional funding, IDFG built >300 new stack yards on private land to reduce damage to stored forage. This aggressive focus on reducing depredation on agricultural crops by white-tailed deer and other ungulates will continue into the future.

Agriculture and Urban Deer Management Direction

Management Direction - Implement proactive population management measures to minimize white-tailed deer depredations.

Strategy: In areas with persistent, high rates of depredations, adjust hunting seasons to increase hunting pressure and achieve higher harvest.

Strategy: Use hunting as the primary tool to manage agricultural depredation, including access to private lands.

Management Direction - Provide support to landowners in alleviating and preventing white-tailed deer damage to growing or stored crops.

Strategy: Develop deterrent strategies to reduce or prevent white-tailed deer use of agricultural lands or urban areas.

Strategy: Take proactive measures to protect stored crops, such as building stack yards or providing panels and Tensar.

Management Direction - Provide technical support and assist municipalities experiencing urban deer issues.

Strategy: Provide educational information to municipalities and groups to help prevent deer damage to gardens and landscaping; provide recommendations for ornamental plantings that are less palatable to deer.

Strategy: Provide technical assistance and permits to local municipalities to address urban deer issues.



Visit idfg.idaho.gov/plaid to download a copy of this manual and find out more about the program.



Population Monitoring

Numerous techniques have been used throughout white-tailed deer range to estimate population size, including: mark-recapture, change-in-ratio, change-in-hunter success, catch-per-unit-effort, population reconstruction, and aerial surveys (Lancia et al. 1996).

In much of North America, white-tailed deer are managed using harvest-based, deterministic modeling. Due to the secretive nature of white-tailed deer and densely vegetated habitats they occupy, most standard population enumeration techniques are inefficient, ineffective, or impossible. Department staff have experimented with various techniques, including aerial surveys and spotlight counts. To date, IDFG has found no single population monitoring technique that provides reliable and cost-effective measures of population demographics and abundance. However, IDFG has been monitoring harvest data as an index to population abundance and distribution since 1975. Additionally, species-specific deer hunter participation information has been collected since 2005 and provides additional information for catch-per-unit-effort indices (i.e., success rates, percent 5-points, days afield to harvest).

Wildlife managers in Idaho primarily used total harvest and changes in distribution to monitor population trends. Historically, proportion of harvested bucks with ≥ 4 points on the right antler was used as an index for monitoring buck age structure. However, further analyses indicated proportion of 4-point bucks in the harvest is relatively insensitive to changes in harvest or hunting season structure, a consequence of the relatively narrow range of hunting mortality rates observed in Idaho (IDFG, unpublished data). In the previous planning process, managers determined proportion of 5-point bucks in the

harvest would provide a more conservative indicator of age structure and antler size.

One can reasonably argue white-tailed deer management in Idaho does not require intensive monitoring because population change is not integrally tied to changes in hunting regulations. However, a solid monitoring program is needed to give managers ability to identify when white-tailed deer populations change, adapt management to those changes, and better understand and explain causes to the public. Currently, new survey techniques using remote cameras are being developed to estimate abundance, monitor fawn:doe:buck ratios, and measure buck quality (see Research section).

Population Monitoring Management Direction

Management Direction - Develop biological studies to estimate population abundance, predator impacts, and habitat management capabilities.

Strategy: Implement research to estimate adult and fawn survival rates, document cause-specific mortality and predation rates to better understand predator-prey interactions, and investigate roles habitat type and quality play in predator-prey relationships (see Research section).

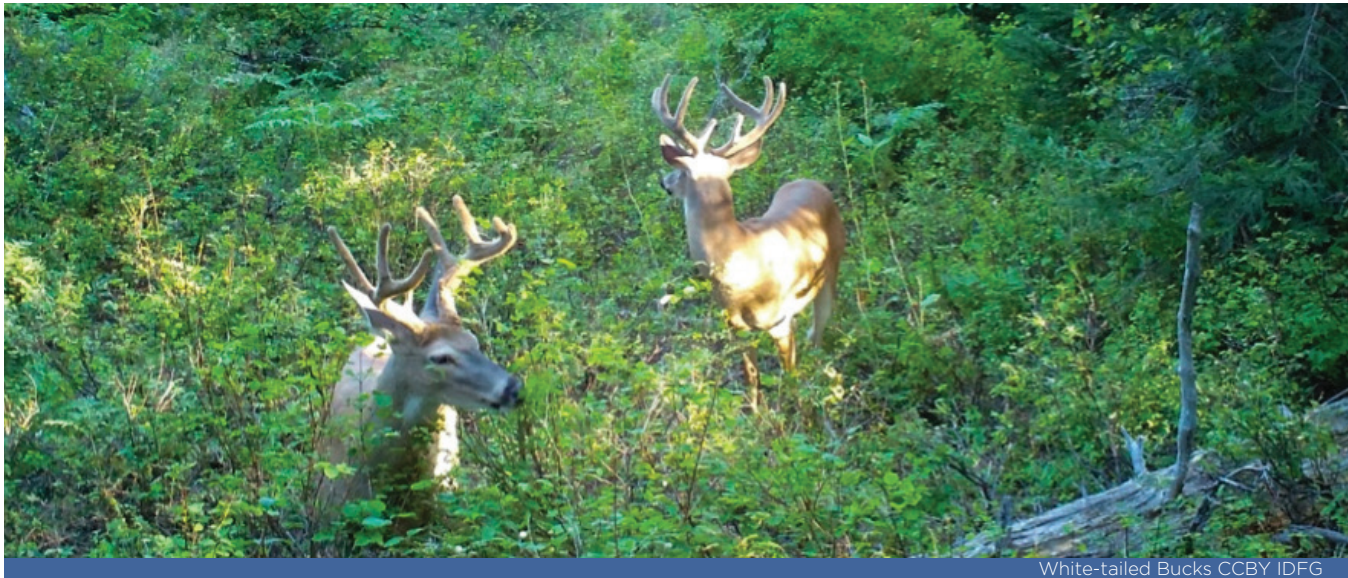
Strategy: Develop methods to estimate white-tailed deer abundance and herd composition.

Strategy: Develop methods to quantify buck antler conformation.

Strategy: Explore strategies to quantify population age structure.

Strategy: Develop a web-based method for sharing new management tools with the public as they become available.

Strategy: Explore strategies to include sportsmen and women or interested publics in biological studies or management activities.



White-tailed Bucks CCBY IDFG

Harvest Management and Hunting

History of Hunting White-tailed deer in Idaho

The first hunting regulations for deer in what is now Idaho (then part of the Idaho Territory, which included Idaho, Montana, and part of Wyoming) were implemented in 1863 and closed deer hunting between February 1 and June 30. In 1899 the first bag limit was established; limiting hunters to 4 deer/year. During the 1950s and 1960s, liberal harvest regimes for deer and elk were instituted to address over-browsing of winter ranges. The first species-specific deer management strategy in Idaho was implemented in 1974 when Game Management Unit (GMU) 11 was closed to mule deer harvest but remained open for general white-tailed deer hunting.

The 1980s were characterized by increasingly liberal seasons which took advantage of increasing deer populations and were designed to help alleviate conflicts with agricultural producers. During the 1990s, effects of drought in southern Idaho exacerbated ongoing population declines, requiring managers to reduce mule deer hunting to short, buck-only seasons. Many displaced hunters headed north to take advantage of long seasons and expanding white-tailed deer populations. The influx of hunters to northern Idaho caused some major trespass issues and landowner conflicts. Therefore, in 1998 the Clearwater Deer Tag (the first and only regional deer tag) was created. Hunters had to

choose between hunting in Clearwater Region or elsewhere in the state. This arrangement helped alleviate trespass issues associated with the shift in hunter distribution, but some hunters felt the approach overly restricted hunter mobility. Part of the previous planning process involved developing an alternate, more uniform approach to managing hunter distribution in northern Idaho. Thus, the Clearwater Tag was eliminated and essentially replaced with a statewide White-tailed Deer Tag. The new tag structure maintained many benefits achieved by the Clearwater Tag while allowing more hunter mobility early in hunting season.

White-tailed Deer Hunting Opportunity and Experience

Idaho deer hunters display various motivations for hunting: spending time with family and friends, seeing deer and other wildlife, being close to nature, getting away from usual demands of life, harvesting a deer, putting meat in the freezer, harvesting a mature buck, and others. In comparison to deer hunters in 1987, today's hunters are older, place greater importance on social aspects of the hunt, and are more likely to use an off-highway vehicle (Sanyal et al. 1989).

Deer hunting has strong ties to Idaho's history and culture and today's hunters highly value the opportunity to hunt every year. However, some hunters may desire more opportunities to hunt mature bucks or hunt with special weapons, whereas harvesting a deer for food may be

more important to others. To meet demands of the broad spectrum of deer hunters, this Plan provides a framework for implementing a diversity of hunting experiences.

Hunter Density and Congestion

Hunter congestion is an important factor contributing to hunt quality and hunter satisfaction. However, congestion is based upon an individual's perspective and tolerance of crowding can be quite variable among hunters. Although hunter congestion can be value-based, hunter density increased in a few GMUs since the mid-2000s (Figs. 3 and 4).

During the past 3 years, statewide density of white-tailed deer hunters averaged 0.83 hunters/mi². However, in some GMUs in northern Idaho, average hunter densities reached 5.91 hunters/mi². Hunters pursuing different species in the same place (e.g., deer and elk) or hunting during late season, when snow levels concentrate hunters and game, might exacerbate congestion. Increased hunter density was likely fueled by a steadily increasing white-tailed deer population and a corresponding increase in hunters attracted to higher deer numbers.

Hunter congestion, including number of nonresident hunters, was a concern for some respondents in the 2018 Idaho White-tailed Deer Hunter Survey. Even so, most white-tailed deer hunters were either satisfied (46%) or neutral (28%) with regard to number of hunters encountered during their 2017 hunting experience; only 7% of hunters were very dissatisfied with hunter density. Of hunters who were very dissatisfied, 114 commented they were unhappy with nonresident hunter numbers, and 89 commented they were unhappy with hunter congestion. In contrast, 45% of mule deer hunters felt hunter congestion negatively affected quality of their hunt in 2016 (IDFG, unpublished data). Continued growth in white-tailed deer hunter numbers might lead to similar impacts on hunter satisfaction. Solutions to this issue will be more complex than individually addressing mule deer, white-tailed deer, or elk seasons; a comprehensive approach is required. For example, if mule deer seasons are modified such that hunters are displaced or choose to pursue other species,

white-tailed deer seasons could experience increased congestion. The Department is committed to addressing hunter congestion in a comprehensive fashion and will be cooperating with the University of Idaho to survey hunters in 2020–2023 to gauge their desire and tolerance for various solutions (see Hunter Congestion Concepts, Appendix C).

Annual Hunting Opportunity

Unlike several surrounding states, Idaho has continuously offered annual, over-the-counter, any-weapon hunting opportunity for both white-tailed and mule deer. In 2018, 93 of Idaho's 99 GMUs provided general-season hunting opportunity for >72,000 mule deer and 55,000 white-tailed deer hunters.

Idaho deer hunters have consistently expressed they value this annual opportunity. Respondents to the 2017 Mule Deer Hunter Survey repeatedly indicated they would choose opportunity to hunt every year over less frequent hunting with greater likelihood of harvesting a mature buck. Similarly, 76% of respondents to the most recent white-tailed deer hunter survey indicated annual hunting opportunity is important. When asked whether some GMUs should be managed for large white-tailed bucks, even if that means shorter seasons or controlled hunts, more hunters disagreed (42%) with this concept than favored (33%) it.

Buck Management

Buck management, and availability of mature bucks, is an important issue for white-tailed deer hunters throughout the species' range. The concept of Quality Deer Management (QDM) arose from hunter dissatisfaction with availability of mature bucks in states where buck mortality from hunting is very high and deer numbers exceed carrying capacity. Most research on QDM, and subsequent implementation, has occurred in eastern or mid-western states (Bowman et al. 2007, Shaw and Harper 2008, Wallingford et al. 2017). In general terms, managing for mature bucks under this scenario involves reducing overall deer density to levels below biological carrying capacity by harvesting does and

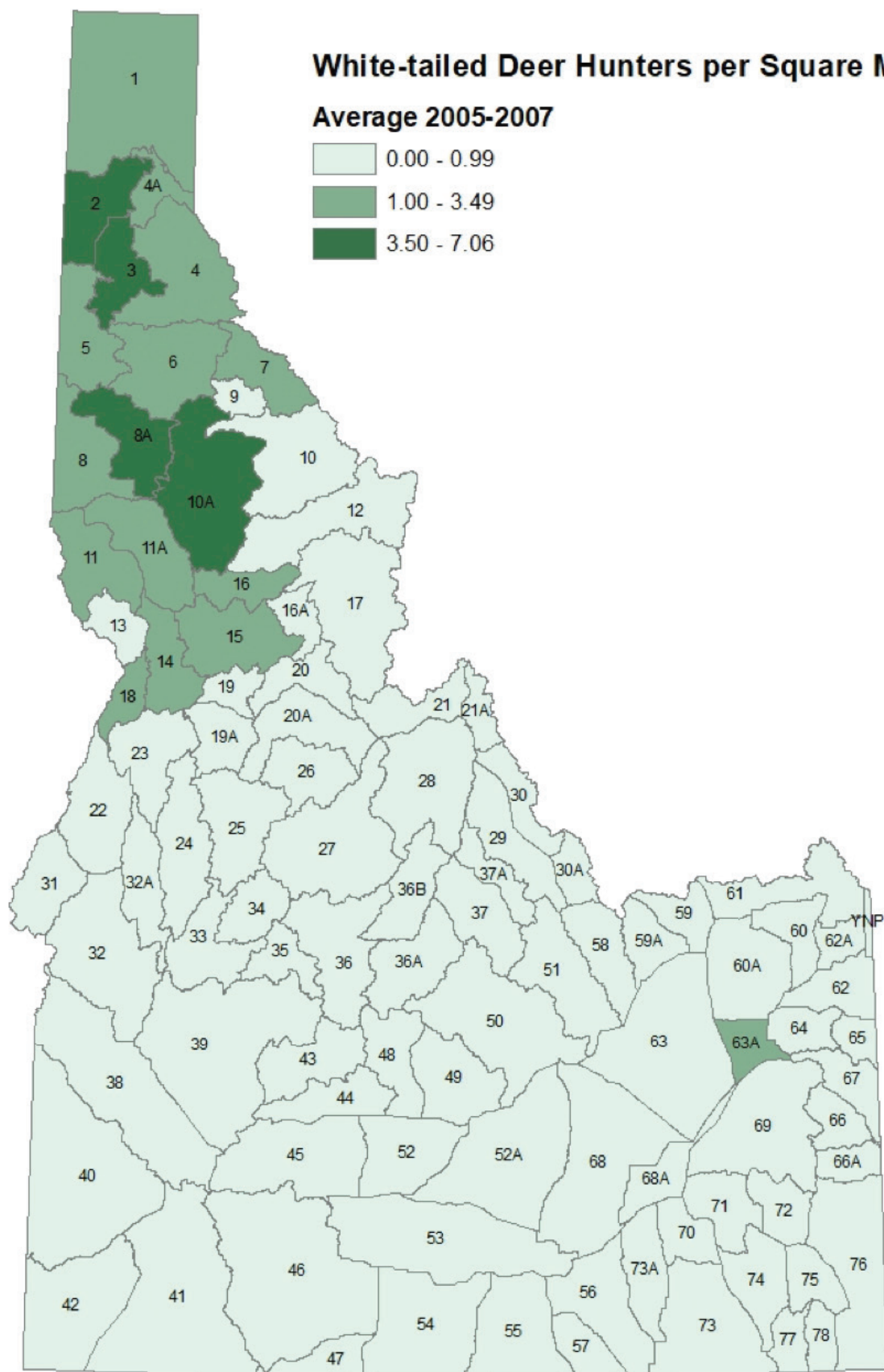


Figure 3. Average white-tailed deer hunter density by GMU, 2005-2007.

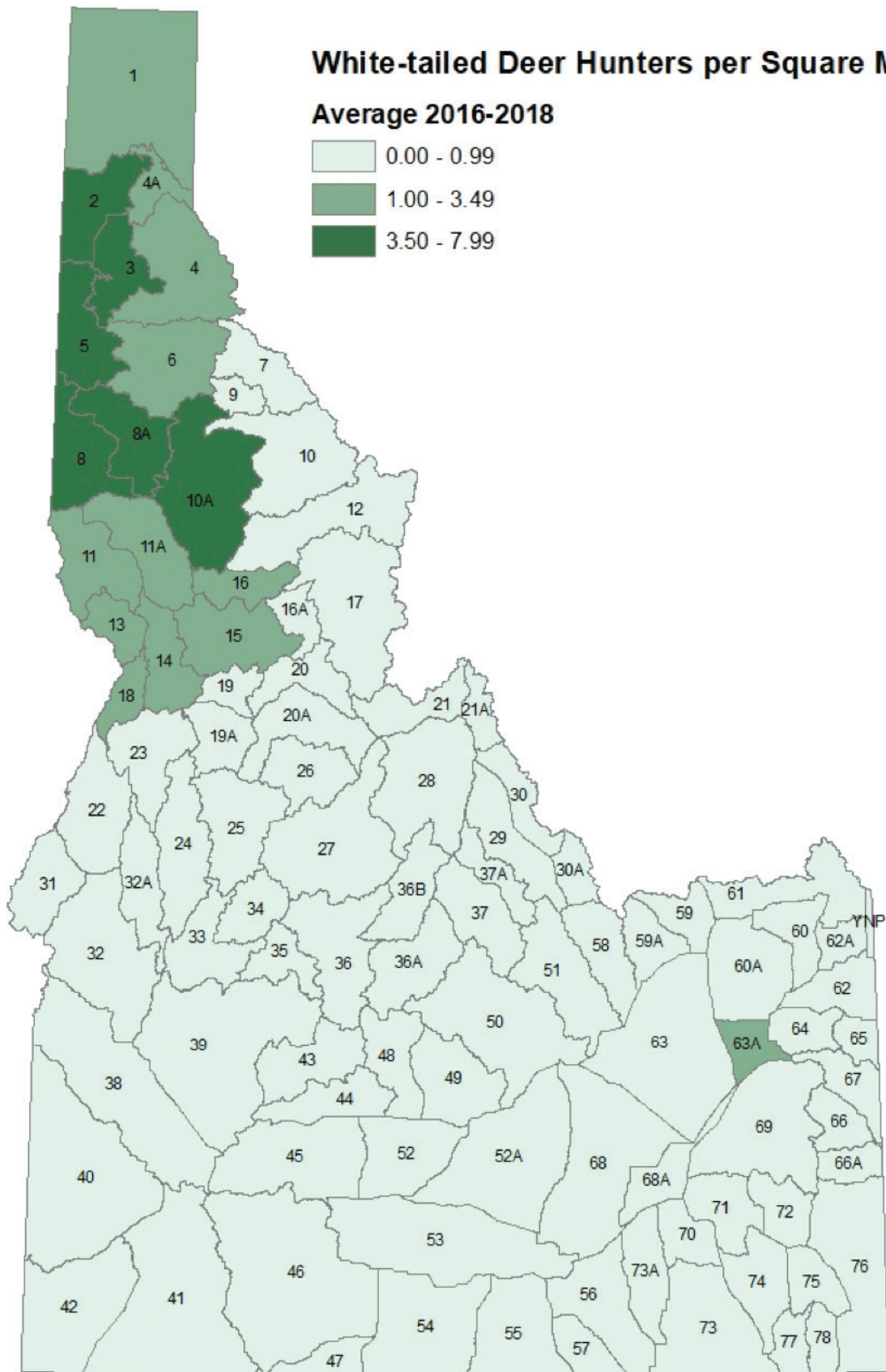


Figure 4. Average white-tailed deer hunter density by GMU, 2016-2018.

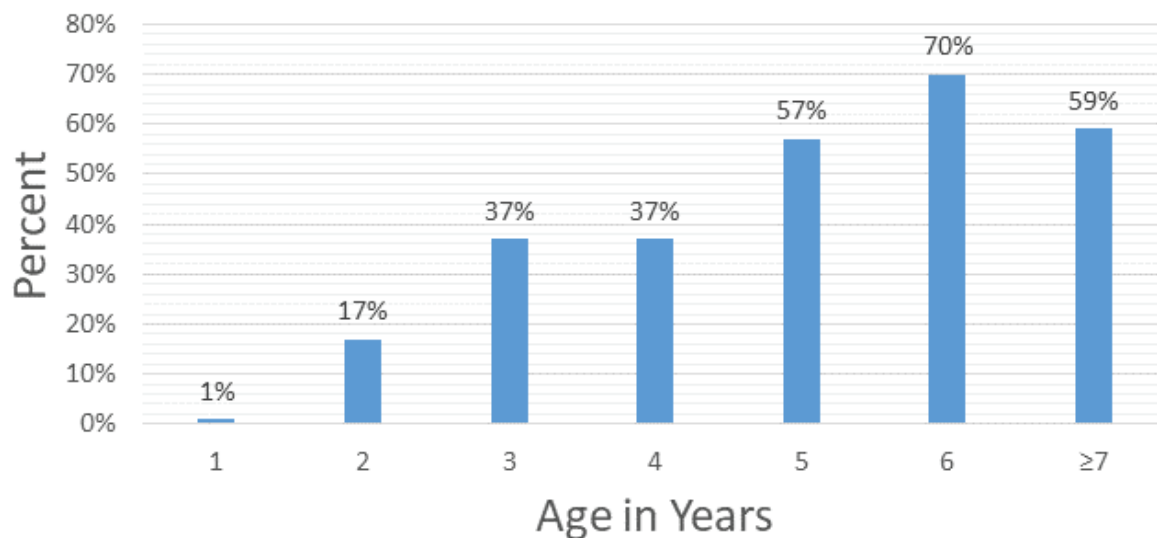


Figure 5. Proportion of bucks (n = 1,045) with ≥ 5 points on one antler, Panhandle Region check stations, 1980–2012.

small bucks. This approach ensures adequate nutritional resources are available for remaining bucks to reach full antler growth potential. Additional restrictions on hunter opportunity are then implemented to limit harvest on remaining bucks (e.g., antler point restrictions, controlled hunts, or shifting hunting season dates) to increase survival and availability of large bucks.

White-tailed deer populations and harvest pressure in Idaho differ from those in mid-western or eastern parts of the U. S. Consequently, IDFG has not seen a need to adopt a QDM approach. White-tailed deer in Idaho exhibit no indications of exceeding carrying capacity and harvest rates on bucks, and deer in general, are much lower than typically reported in the Midwest and East. Lastly, hunters in Idaho have indicated clear opposition to additional restrictions on harvest and expressed high levels of satisfaction with recent hunting opportunity and hunt quality.

The Department monitors trends in proportion of harvested bucks with ≥ 5 points on ≥ 1 antler as a measure of buck age structure and antler conformation. Management objectives in the previous plan specified proportions of harvested bucks meeting that 5-point criterion (based on a 3-year running average): $\geq 10\%$ for most of Idaho and $\geq 17\%$ in the 2 most productive DAUs (Northern Forest and Northern Agriculture). All DAUs where white-tailed deer receive management priority over mule deer exceeded

(and continue to exceed) these established minimum criteria since implementation of the prior plan.

However, relevance of 5-point minimum criteria has been questioned by some hunters, primarily those interested in seeing more restrictive management to increase availability of mature bucks. These hunters correctly note not all bucks with ≥ 5 points are large, mature animals (i.e., some young bucks have ≥ 5 antler points).

Age-specific antler point data collected from 1,045 whitetail bucks checked through Panhandle Region check stations over a 23-year period shed light on this subject (Fig. 5). Proportion of bucks with > 5 points increased until age 6. Less than 1% of yearlings grew antlers with ≥ 5 points (4 of 763). Prevalence of 5-point antlers increased to 17% for 2-year-olds, and 37% for bucks 3–4 years old. At ≥ 5 years of age, 50–70% of bucks reached ≥ 5 points on ≥ 1 antler. Based on this data set, approximately 30% of whitetail bucks in northern Idaho are nutritionally or genetically predisposed to never exceed 4 antler points, even though they are large, mature bucks. Therefore, the 5-point or larger criterion appears to be a conservative approach to monitor and maintain a healthy age structure. To further test this assumption, research will be initiated to study buck vulnerability (see Research section).

Responses to the 2018 White-tailed Deer Hunter Survey indicated overwhelming proportions of

hunters appreciate current white-tailed deer hunting opportunities. Hunters strongly value opportunities to hunt in November ($\geq 75\%$) and hunt bucks every year (76%), and are generally satisfied with their ability to harvest a mature buck (58%). In addition, more hunters disagreed (42%) than agreed (33%) with the concept of managing some GMUs for large bucks if additional restrictions (shorter seasons or controlled hunts) are necessary.



Antlerless Harvest

Antlerless harvest is an important tool to accomplish a number of management objectives: maintain high productivity by ensuring populations remain below carrying capacity, address depredation concerns on private

land, provide additional hunting opportunity, and provide opportunities for hunter recruitment and retention. In many eastern and mid-western states, hunters are permitted to harvest multiple antlerless deer each year in an effort to both provide opportunity and manage overabundant deer populations.

Because white-tailed deer display high intrinsic rates of increase, occupy relatively dense forest or riparian habitats, and exhibit relatively low mortality from hunter harvest, hunting opportunity is generous when compared to mule deer. Opportunities include general seasons for antlerless animals and hunting during the rut in November. Hunters appear to take advantage of either-sex harvest opportunities; almost one-half (44%) of respondents to the 2018 survey reported taking an antlerless animal in 2017. Hunters expressed mixed opinions about reducing antlerless white-tailed deer numbers in some areas specifically to resolve depredation problems: 38% agreed with this strategy, whereas 29% disagreed, and 32% remained neutral.

Hunter Access

According to the 2018 survey of white-tailed deer hunters, 60% of respondents agreed IDFG should spend more time and resources developing hunting access onto private land. Providing access to sportsmen and women is an important objective of IDFG. Loss of access can compromise IDFG's ability to meet population objectives and manage depredations. Loss of access on public land is also a growing problem. Lack of funding, management restrictions, and hazardous conditions created after fires have all led to a decrease in amount of trail and road infrastructure on public land. The Department will continue to work with partner agencies and private entities to improve access for Idaho's hunters. To help address access issues, IDFG has developed a suite of tools:

- The Access Yes! program, which is designed to secure access to private land or through private land to landlocked public land. In 2017 approximately 800,000 acres of land were open to the public via Access Yes!; split evenly between private lands and previously landlocked public lands.
- An agreement with IDL for continued access to 2.3 million acres of IDL land. Historically, these lands were open to the public, but were at risk of lease agreements limiting public access. This agreement will ensure Idaho state-endowment lands are open to public hunting, trapping, and fishing.
- A Large Tracts program, which is focused on securing access to private parcels $\geq 50,000$ acres. Funding for this program resulted from passage of a budget package by the Idaho Legislature in 2017, which was intended to increase funding for programs that support public access.

In addition to these programs, which are primarily focused on private or state-owned lands, IDFG continues to work with federal partners to secure access to federal lands and explore additional tools for maintaining and expanding access.

Harvest Monitoring

Deer harvest data (white-tailed and mule deer combined) has been collected since the early 1930s in Idaho. Various techniques have been used to estimate harvest, including check stations, tag returns, voluntary hunter reports, random telephone surveys, and currently, a mandatory harvest report system. Although not used to estimate harvest, check stations are operated to provide immediate feedback to wildlife managers about hunting seasons, serve as an enforcement tool, provide an opportunity for IDFG personnel and hunters to interact, and allow for collection of biological data. Estimates derived from random telephone surveys (1982–1998) and mandatory harvest reports with a follow-up telephone survey of a sample of hunters who failed to file reports (2001–present), have produced the most reliable results. Information collected includes total hunter numbers; success; species, gender, and antler points of harvested animals; hunting and harvest locations (GMU); weapon type; and days of effort.

Presumably, statewide deer harvest during the mid- to late 1900s was dominated by mule deer.

Beginning in 1975, harvest of mule deer and white-tailed deer was monitored separately. Since 1994, white-tailed deer comprised 40–50% of statewide deer harvest. However, harvest surveys did not differentiate effort (hunter days) exerted by mule deer and white-tailed deer hunters until 2005, when IDFG began species-specific monitoring of hunter participation.

Trends in harvest roughly correspond with trends in deer populations (MFWP 2006). White-tailed deer hunter numbers (Figs. 3 and 4), hunter days afield, and harvest (Figs. 6 and 7) have been increasing over the past few decades. Peak white-tailed deer harvest of 30,342 occurred in 2015. Increasing harvest, along with stable to increasing hunter success, suggest white-tailed deer populations have steadily increased over the past few decades.

According to the 2018 Idaho White-tailed Deer Hunter Survey, hunters were satisfied with their opportunity to harvest a white-tailed deer (72%), a whitetail buck (71%), and a mature whitetail buck (58%).



White-tailed Deer CCBY IDFG



Harvest Management Direction

Management Direction - Continue to offer annual hunting opportunity for white-tailed deer.

Strategy: Continue to offer general-season white-tailed deer hunting opportunities.

Management Direction - Provide a diversity of hunting opportunities, including socially desirable and biologically sustainable levels of antlerless and mature buck opportunity.

Strategy: Continue to offer a diversity of hunting opportunities, including seasons for hunters using multiple weapon types.

Strategy: Provide information to hunters to allow them to align hunting desires with available opportunities.

Strategy: Continue to offer long general seasons and hunting during the rut where population levels are adequate.

Strategy: Develop methods to quantify buck age structure and antler conformation metrics.

Strategy: Develop a web-based method for sharing new management tools with the public as they become available.

Management Direction - Assess hunter desires for different types of white-tailed deer hunting opportunities.

Strategy: Conduct a forced-choice question survey to understand hunter desires for various white-tailed deer harvest strategies.

Strategy: Work with University of Idaho human dimensions professor to develop a hunter survey regarding satisfaction with current hunting opportunities during the life of this Plan.

Illustration CCBY Reister for IDFG

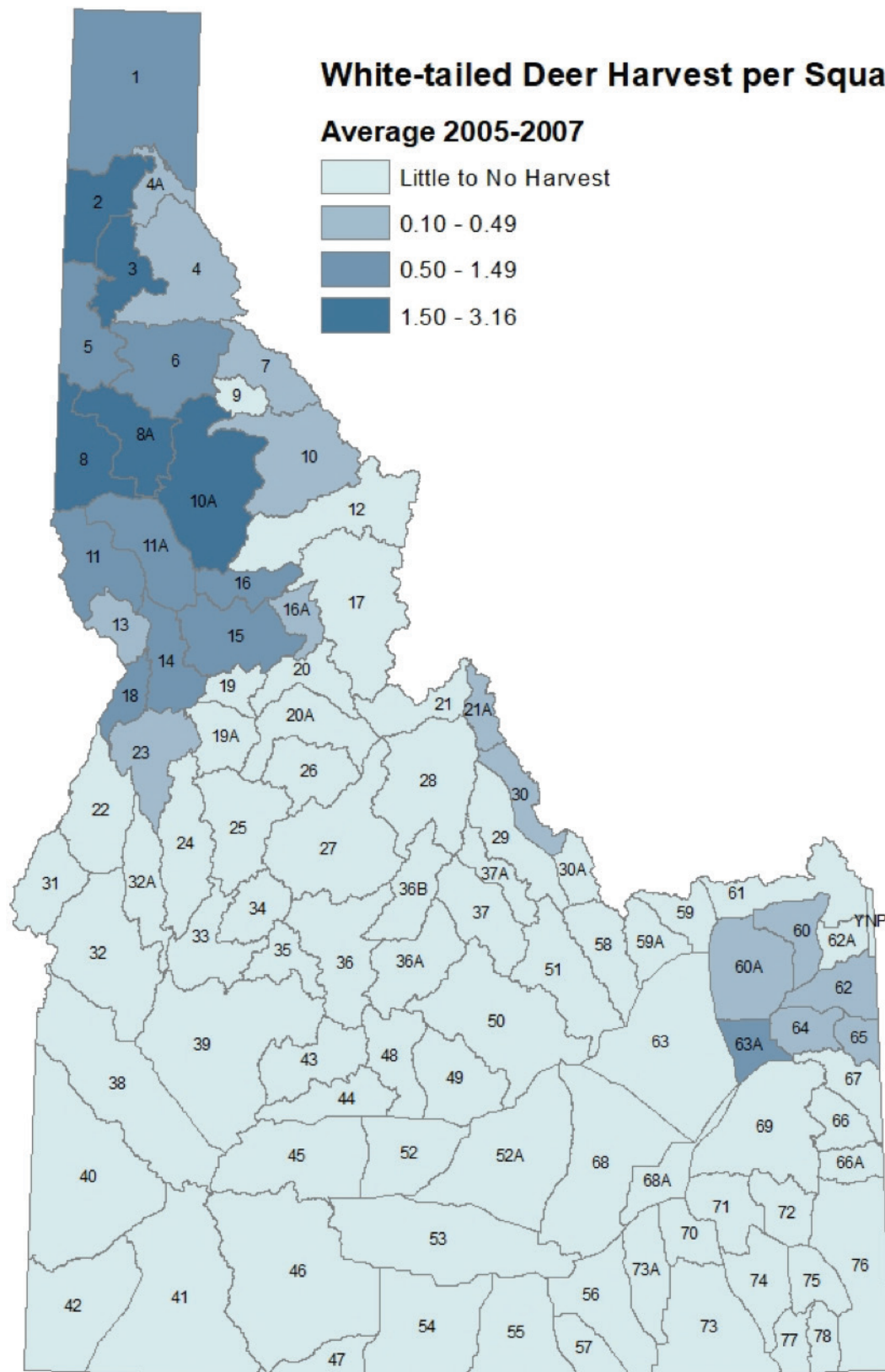


Figure 6. Average white-tailed deer harvest density by GMU, 2005-2007.

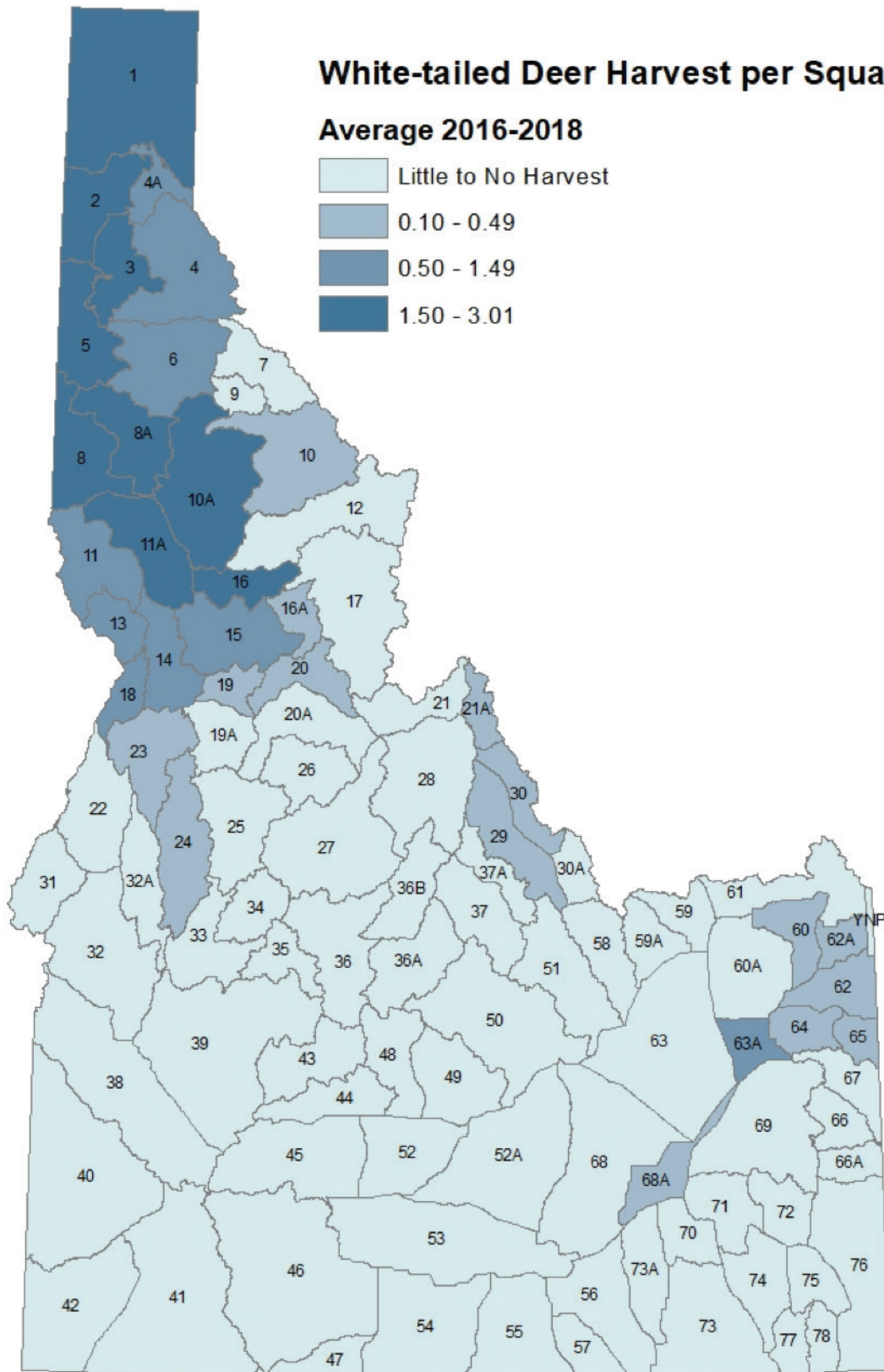


Figure 7. Average white-tailed deer harvest density by GMU, 2016-2018.



Illegal Harvest and Unlawful Commercialization

Illegal harvest and commercialization of white-tailed deer result in lost opportunities for wildlife enthusiasts and hunters. Quantifying illegal activity is inherently problematic. Although dated, available research suggests illegal harvest may equal legal harvest (Vilkitis 1968). This level of exploitation, along with commercialization of mature bucks, highlights the need for innovative enforcement and management efforts. Preventive measures, focused enforcement, and reduced commercial opportunities could increase numbers of legally harvestable deer.

Because estimates of illegal harvest are lacking, population-level impacts are very difficult to measure. Illegal activities often occur during open hunting season, further complicating detection. Illegal harvest may be additive to legal harvest. Because mature bucks are generally the smallest and most desirable segment of a deer population, illegal harvest can have a significant impact on herd composition and availability of mature bucks for lawful harvest.

As an ever increasing monetary value is placed on fish and wildlife resources, incentive to violate game laws may increase as well. Antler buyers, taxidermists, wildlife artists, “trophy collectors,” and sporting goods stores are but a few of those involved in commercialization of wildlife. If commercialization was confined to legally harvested animals or shed antlers, negative effects on deer populations would likely be reduced.

Conservation officers collect data on unlawfully taken big game to identify timing and locations (GMU) of unlawful harvest; species and gender of animals; and violation types. The public plays a huge role in detections of unlawfully taken wildlife, contributing >70% of reports received by enforcement staff. Upcoming research on white-tailed deer is designed to provide information on population densities and cause-specific mortality, which may identify more strategies to combat illegal harvest. Protecting the public’s legal use of Idaho’s wildlife is a primary objective for IDFG.

Illegal Harvest and Unlawful Commercialization Management Direction

Management Direction - Employ enforcement strategies and techniques to ensure illegal harvest is minimized and harvest by regulated hunting is maintained.

Strategy: Increase targeted enforcement activities in areas where chronic illegal harvest occurs.

Strategy: Provide opportunities to increase public reporting of illegal harvest.

Management Direction - Emphasize ethics, safety, and fair chase through education and enforcement programs.

Strategy: Ensure a Conservation Officer assists in all hunter education classes.

Strategy: Create public outreach materials about illegal harvest and impacts to IDFG’s ability to manage for mature-buck hunting opportunity.



White-tailed Fawn CCBY IDFG

White-tailed Deer Research

Mule deer and elk have historically received research emphasis in Idaho. Research on white-tailed deer has occurred sporadically and been primarily focused on behavior patterns, habitat use, food habits, and migration patterns (e.g., Thilenius 1960, Pengelly 1961, Gladfelter 1966, Thilenius and Hungerford 1967, Howard 1969, Will 1972, Keay and Peek 1980, Owens 1981, Pauley 1990, Baumeister 1993, Pauley et al. 1993, Secord et al. 1993). Wildlife managers need information about basic population ecology, habitat use, survival, mortality, and productivity of white-tailed deer in Idaho so they can better understand how harvest management affects population abundance and composition, what role white-tailed deer play in predator-prey dynamics. The secretive nature of white-tailed deer and densely vegetated habitats they occupy severely limit IDFG's ability to estimate population size and composition. Aerial surveys and other traditional approaches, such as spotlight surveys and pellet transects, provide inaccurate and imprecise indices. Therefore, managers also need a cost-effective, reliable method to quantify white-tailed deer population composition and abundance to measure outcomes of management actions and better communicate with Idaho's public regarding white-tailed deer management. Because

white-tailed deer are responsible for significant damage to high-value crops in Idaho each year, particularly in northern Idaho, wildlife managers also need new tools to discourage white-tailed deer depredation. The Department plans to undertake several research projects during the life of this Plan to address these management needs (Table 3).

Population Monitoring

Moeller et al. (2018) developed 3 methods (time-to-event, space-to-event, and instantaneous sampling) that utilize remote trail cameras to estimate populations of unmarked animals. Each of the methods rely on an array of remote cameras placed throughout the area of interest (e.g., range of a population of white-tailed deer). Depending on method, cameras are programmed to take photographs either when triggered by motion or at pre-determined time intervals. Number and timing of animals captured in photographs and area of the cameras' fields of view are then used to estimate abundance. The methods can produce separate abundance estimates for different gender and age classes of deer, allowing calculation of gender and age ratios (i.e., buck:doe:fawn ratios). We will test applicability of these methods for estimating white-tailed deer abundance and

herd composition in portions of northern Idaho concurrently with other projects.

Buck Quality

Traditionally, managers used proportion of harvested bucks with 4 or 5 points on the right antler as a measure of buck age structure. However, factors other than age affect antler development and number of points (e.g., genetics, nutrition, injuries, etc.), making that metric alone an unreliable indicator of male age structure or antler conformation. Flinn et al. (2015) developed a method for estimating age of whitetail bucks, and size and conformation of white-tailed deer antlers from photographs. We will explore use of a similar, though likely simplified, method of quantifying antler size from trail-camera photographs collected during the population monitoring study. Our goal will be to develop a method managers can use to efficiently categorize male white-tailed deer by antler size, allowing them to monitor effects of management actions designed to change antler size and male age structure.

Cause-Specific Mortality

White-tailed deer are one of the most-studied species in the U. S., but the vast majority of that research was conducted in mid-western and eastern states with few large predators, different habitat types, longer growing seasons, and different seasonal weather extremes than Idaho. Therefore, little existing knowledge helps us understand population dynamics and sources of mortality for white-tailed deer in Idaho. Understanding these demographic rates can aid active management of white-tailed deer populations and our understanding of the role of white-tailed deer in predator-prey dynamics in Idaho. To effectively manage all of Idaho's big game species, both predators and prey, we must understand how they interact and how manipulation of abundance of one species will impact others. Therefore, we plan to capture and deploy GPS-collars on adult female white-tailed deer in several northern Idaho study areas. Using specialized transmitters, we will then be able to capture and deploy collars on their newborn fawns. Collars placed on fawns will

expand as fawns grow, allowing us to estimate survival during their first year of life. These efforts will allow us to estimate adult female and fawn survival rates for populations, document causes of mortality and predation rates to improve understanding of predator-prey interactions, and investigate roles habitat type and quality play in those relationships. Deer collared for this work will also be used to estimate movement rates and spatial separation of populations for the population monitoring project.

Buck Vulnerability

We expect varying combinations of human access, topography, and habitat types and configurations will result in varying levels of male white-tailed deer vulnerability to hunter harvest, as has been demonstrated with other ungulates (e.g., Proffitt et al. 2013). Managers must understand relationships between natural and anthropogenic features of a landscape and buck vulnerability to harvest to adequately manage buck age structure or antler size. The Department plans to investigate vulnerability of male white-tailed deer to harvest in several portions of northern Idaho which exhibit varying levels of human access and different topographic and vegetation features. A sample of bucks of varying age classes will be marked with GPS transmitters (ear tags or expandable collars) to monitor annual survival, cause-specific mortality, movement rates, and habitat selection. This study will provide a wealth of previously unknown information about Idaho's white-tailed deer.



White-tailed Buck CCBY IDFG

Agriculture Depredation Prevention

Agriculture depredation by ungulates, including white-tailed deer, is not a new issue to Idaho (see Agriculture and Urban Deer section). A variety of deterrent methods have been used in the past to discourage ungulates from damaging growing and stored crops, including scare tactics (e.g., propane cannons, cracker shells), permanent exclusion fencing, and lethal removal. These methods are often expensive (e.g., fencing), require significant staff time (e.g., night-time lethal removal and cracker shells), or become ineffective over time as deer become habituated (e.g., propane cannons). Therefore, we will develop and test new methods to discourage white-tailed deer from utilizing high-value

agriculture fields (e.g., lentils and garbanzo beans) in northern Idaho. These methods will likely include testing new, automated scare tactics that evoke a predator-prey response in deer (e.g., tactic that includes predator scent and motion), removable modifications to existing fences designed for livestock which would temporarily exclude deer during depredation season, a taste-aversion method which would make the flavor or smell of a crop undesirable to deer without damaging the crop itself, and possibly other new techniques. Results of this study will hopefully provide new tools for managers to prevent or minimize agriculture depredations, leading to opportunities to maintain abundant deer populations while simultaneously protecting private property.

Table 3. Anticipated completion dates and management products from white-tailed deer research projects.

Project	Anticipated completion	Anticipated management products
Population monitoring	Initial estimates - 2020	Method for estimating white-tailed deer population abundance and composition with remote cameras
	Complete evaluation examining changes in estimates across years - 2023	
Buck antler size	2020	Method for quantifying white-tailed buck antler size across a population
Cause-specific mortality	Initial estimates in GMUs 10A and 15 - 2019	Vital rate estimates and causes of mortality for neonatal fawns, 6-month-old fawns, and adults of both genders; habitat selection and seasonal movement information
	Initial estimates in GMUs 1 and 6 - 2020	
	Multi-year estimates in GMUs 1, 6, 10A, and 15 - 2023	
Buck vulnerability	2023	Landscape-specific understanding of buck vulnerability to mortality and harvest, and recommendations to achieve desired management outcomes
Agriculture depredation prevention	2020	Methods to reduce white-tailed deer use of high-value agriculture crops in northern Idaho



DATA ANALYSIS UNITS (DAU)



White-tailed Buck CCBY IDFG

For data analysis purposes, GMUs are grouped into 7 DAUs based on deer population characteristics, ecological conditions, and local management considerations. Overall, Idaho can be generalized as predominantly public-owned, with a wide range of terrain, land uses, habitats, and road densities (see Table 4, Figs. 8-10). Buck harvest criteria were established only in DAUs where white-tailed deer receive management priority.

Hunters reported high levels of satisfaction with regard to number of days of hunting opportunity offered under existing hunting seasons, opportunity to harvest a white-tailed deer, and opportunity to harvest a mature buck (Appendix B). The intent of this Plan is to continue management that results in high hunter satisfaction. Management direction is to

provide opportunity for $\geq 46,300$ hunters to hunt $\geq 328,000$ days and harvest $\geq 12,900$ bucks, of which $\geq 15\%$ have ≥ 5 points on either antler (Table 5). Statewide and DAU minimum objectives for hunters, hunter-days, and buck harvest were set based on 80% of average values for the last 3 years (2016–2018).

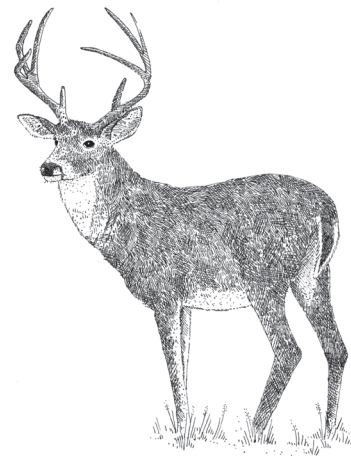


Table 4. Characteristics of DAUs, 2016–2018.

	Data Analysis Unit						
	1	2	3	4	5	6	7
Public land	64%	83%	26%	>99%	72%	75%	62%
Major land use	Forest	Forest	Agric.	Forest	Range	Forest	Range
Roadless	15%	50%	1%	95%	29%	35%	6%
Hunters/square mile	3.37	1.14	3.95	0.11	0.22	0.11	0.03
Harvest/square mile	1.50	0.50	1.91	0.06	0.08	0.02	0.01
Hunter success	45%	44%	48%	53%	39%	22%	24%
Days/harvested white-tailed deer	17	13	15	11	17	24	18
Proportion of harvested bucks with ≥ 5 antler points	20%	15%	22%	22%	24%	10%	14%

Most white-tailed deer populations are found in DAUs 1–3, located in northern Idaho. Remaining DAUs (4–7) encompass habitat with sparse or localized white-tailed deer populations (Fig. 8).

Table 5. Statewide objectives and status.

Criterion	Minimum	3-year average
Hunters	46,300	57,872
Hunter days	328,000	409,970
Buck harvest	12,900	16,120
Bucks with ≥ 5 points	15%	20%



White-tailed Doe and Fawn CCBY IDFG

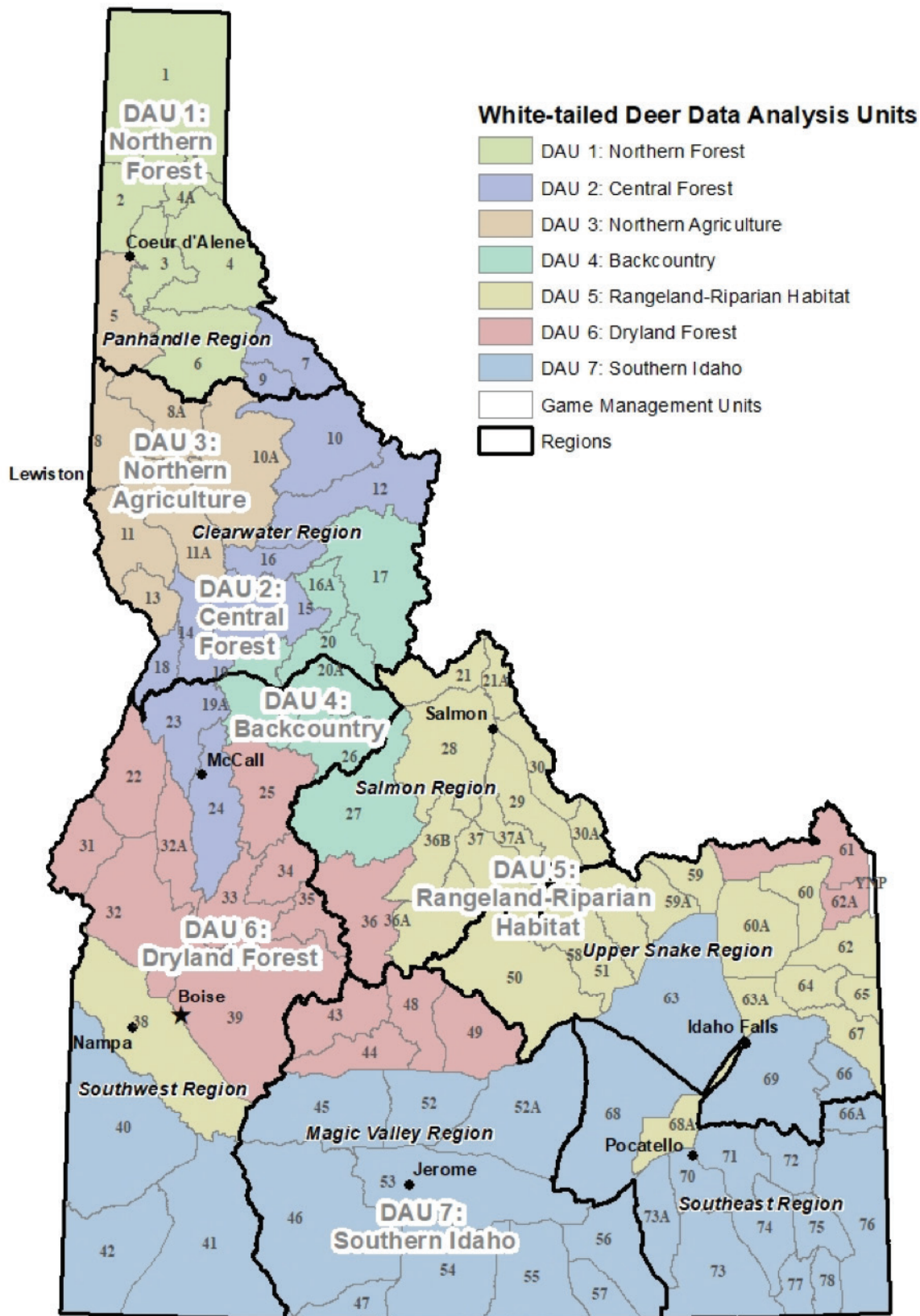


Figure 8. Statewide white-tailed deer Data Analysis Units.

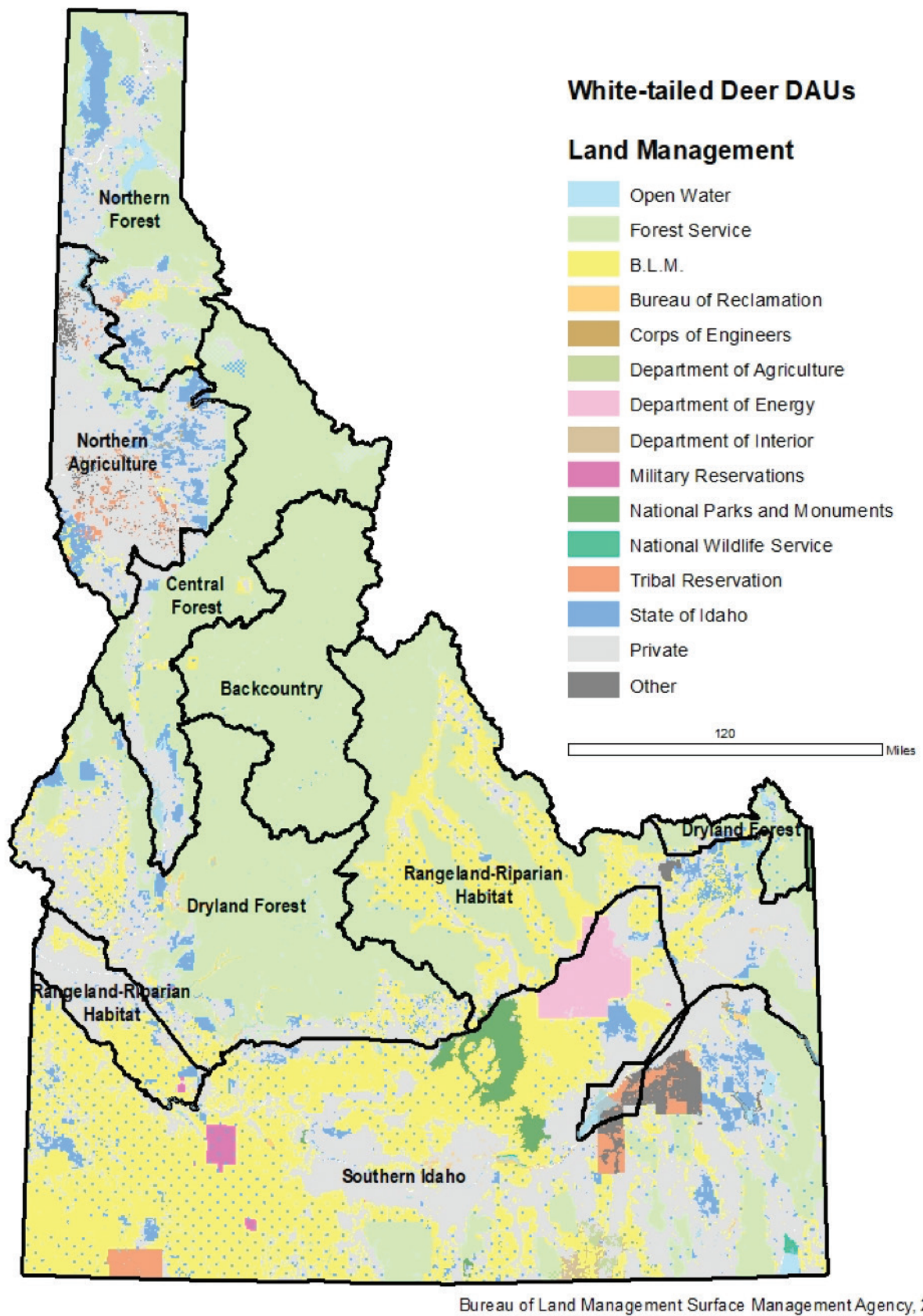


Figure 9. Land management patterns of white-tailed deer DAUs.

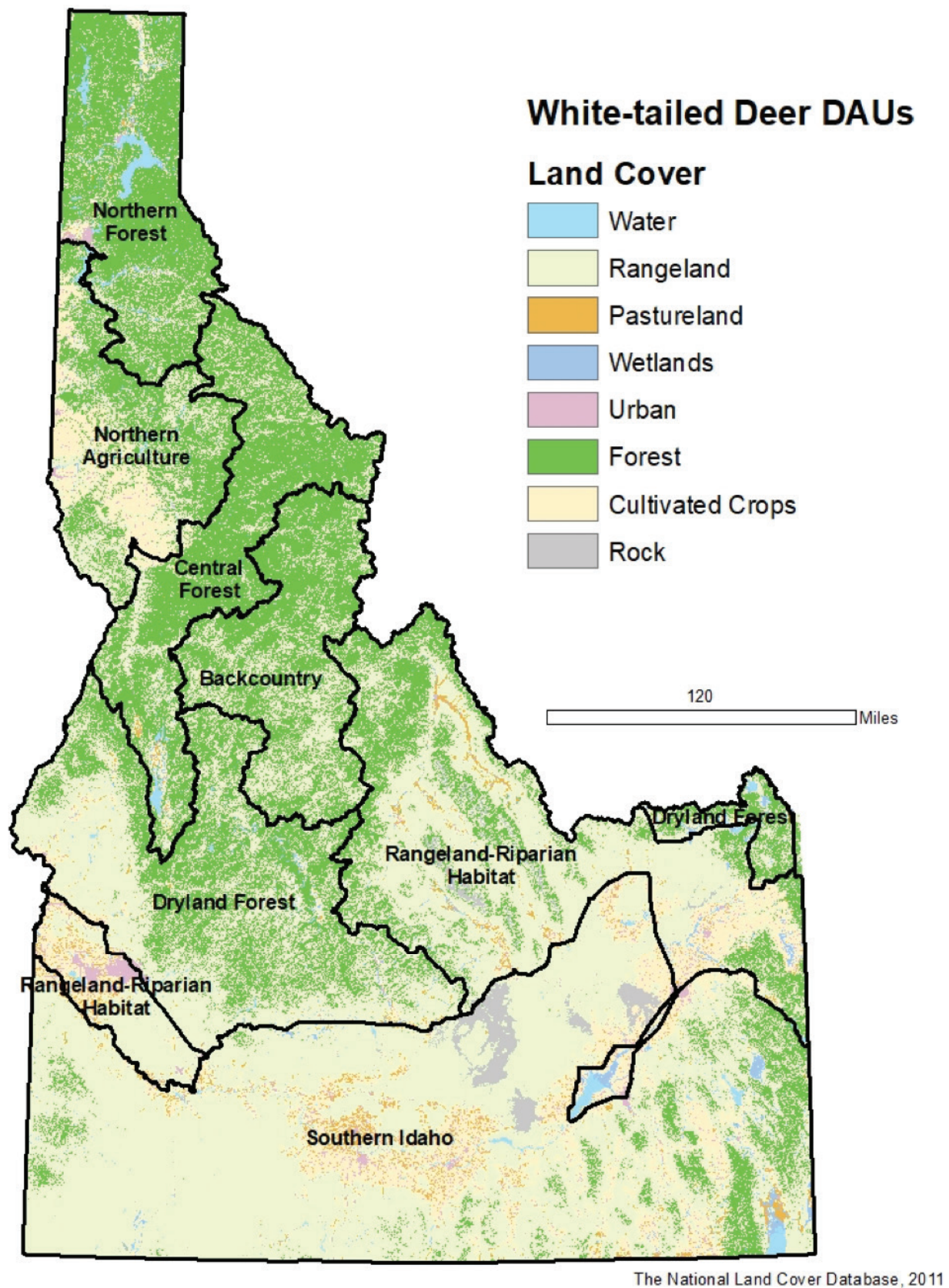
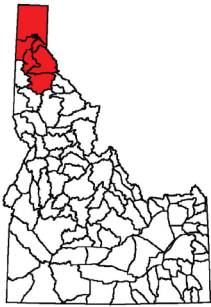


Figure 10. Land cover patterns of white-tailed deer DAUs.



DAU 1: Northern Forest

Description

This DAU includes GMUs 1, 2, 3, 4, 4A, and 6 and is characterized by coniferous forest habitat with high road densities in public ownership.

White-tailed deer are more abundant than mule deer in this DAU. Hunter densities and harvest success rates are relatively high, and opportunity to harvest a mature white-tailed deer buck is moderate. Hunters are able to harvest any white-tailed deer during relatively long general seasons. Controlled hunts for extra antlerless deer occur in areas where agricultural conflicts are prevalent.

Historical Perspective

Prior to the 1900s, deer were apparently relatively scarce, existing along rivers and edges of mature conifer stands and within younger stands created by fire, disease, and insects. Deer habitat began to slowly change in the early 1900s as mining, logging, and railroads became more prevalent. Five major fires occurred between 1910 and 1931, each creating hundreds of thousands of acres of younger forests beneficial to white-tailed deer. Newly-created habitat and a major predator control program allowed deer numbers to continue to grow, even through 5 major die-offs: 1927, 1932, 1946, 1948, and 1949.

Concerns about “over-browsed winter ranges” and “too many deer” in the early 1950s prompted liberal hunting seasons in an effort to reduce deer numbers. Long seasons were the rule from 1954 through 1974. By the early 1970s, deer numbers were substantially less than peak numbers of the 1950s and 1960s. Since the mid-1970s, harvest in the Panhandle increased from 3,000/year to 11,000/year. Timber harvest in the 1970s and 1980s increased amounts of early seral habitat, benefiting white-tailed deer in many parts of Northern Forest DAU. Since the 1990s, there has been relatively little timber harvest, wildfire, or prescribed burning on federal lands; undisturbed stands continue to age past peak productivity for deer.

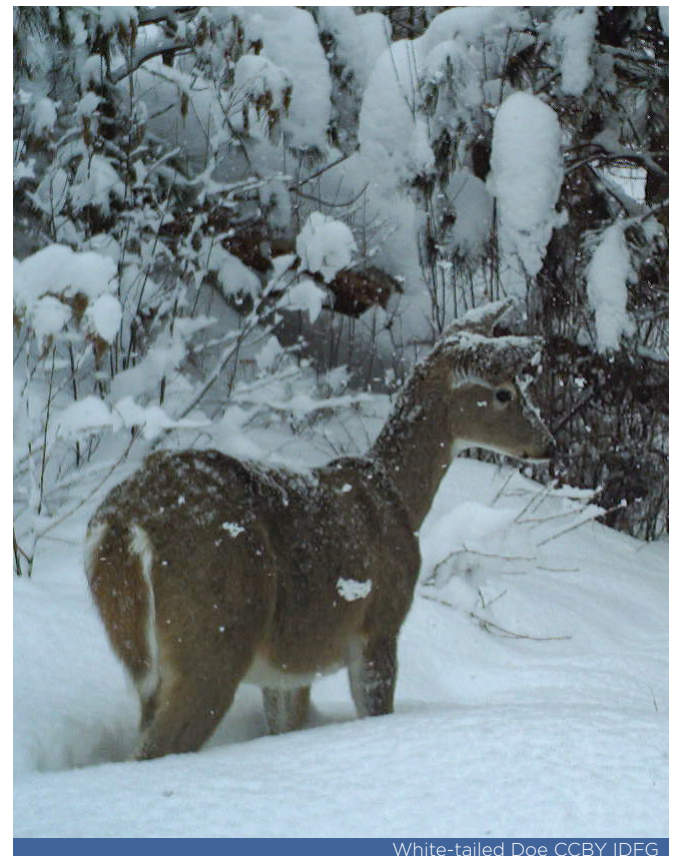
Issues

Timber management practices have been changing, including increased harvest on private and state lands and decreased harvest on federal lands. Continued fire suppression has further decreased available early seral habitats on the landscape. Agricultural changes have contributed to white-tailed deer expansion in some areas. These changes have led to shifts in white-tailed deer distributions, with populations increasing along the agricultural-timberland interface.

Human population growth and development of agricultural and timberlands have allowed white-tailed deer numbers to increase. With the rise in deer numbers in these areas, conflicts, including cropland depredations and urban deer issues, have increased.

Management Direction

Management emphasis will be to maintain white-tailed deer populations that support hunting recreation and hunter satisfaction at recent or higher levels, while minimizing cropland depredations and urban deer issues.



White-tailed Doe CCBY IDFG



White-tailed Bucks CCBY USNPS

Management Actions

1. Continue to offer a diversity of annual hunting opportunities for white-tailed deer across Northern Forest DAU.
 - a. Offer general, either-sex, white-tailed deer seasons for all weapon types.
 - b. Offer long general seasons with late rut hunting opportunity to meet hunter desires.
2. Implement proactive population management measures to minimize white-tailed deer depredations.
 - a. Continue to use hunting as the primary tool to manage white-tailed deer impacts to agricultural crops.
 - b. Continue to offer extra antlerless controlled hunt tags in areas with depredation issues.
3. Provide support to landowners in alleviating and preventing white-tailed deer damage to growing or stored crops.
 - a. Provide technical assistance to private landowners experiencing crop damage.
4. Engage with land management agencies and others to improve quality and quantity of white-tailed deer habitat.
 - a. Increase amount of early seral habitat in areas with large tracts of mature forest.
5. Collaborate with cities and towns regarding urban deer issues.
 - a. Offer information and white-tailed deer management options.



White-tailed Buck in Velvet CCBY IDFG

DAU 1: Northern Forest

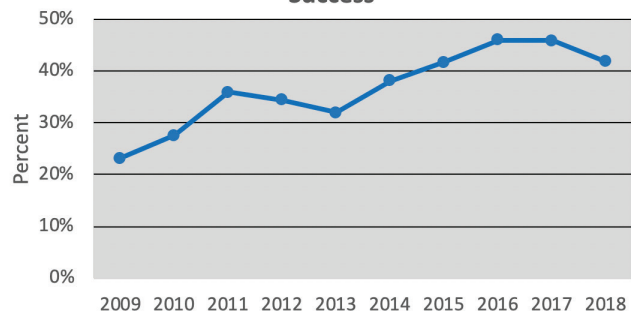
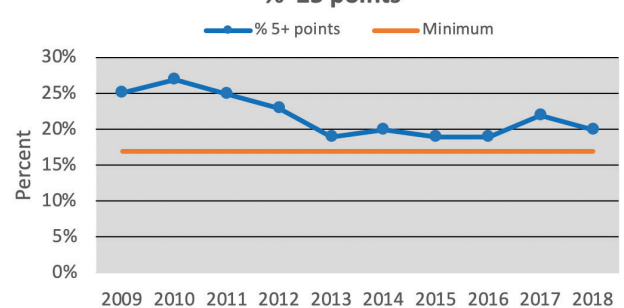
GMUs 1, 2, 3, 4, 4A, 6

Objectives and Status

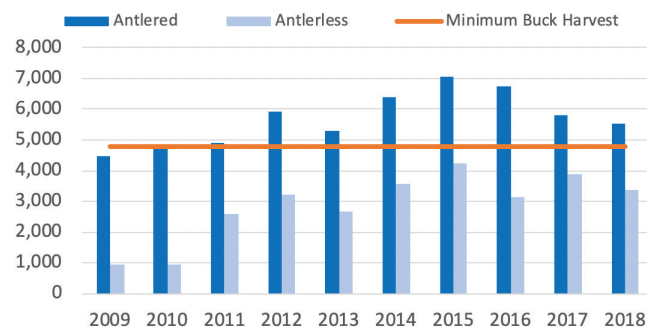
Criterion	Minimum	3-year average
Hunters	17,000	21,249
Hunter days	130,900	163,592
Buck harvest	4,800	6,014
Bucks with ≥ 5 points	17%	20%

3-year averages (2016-2018)				DAU characteristics	
Hunters	21,249	Hunter success	45%	Square miles	6,299
Hunter days	163,592	Days/harvested white-tailed deer	17	Public land	64%
Hunters/square mile	3.37	Bucks with ≥ 5 points	20%	Major land use	Forest
Harvest/square mile	1.50			Roadless area	15%

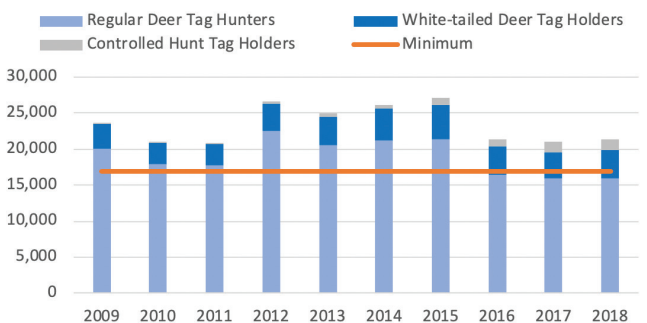
Northern Forest White-tailed Deer Harvest Success

Northern Forest Antlered White-tailed Deer: % ≥ 5 points

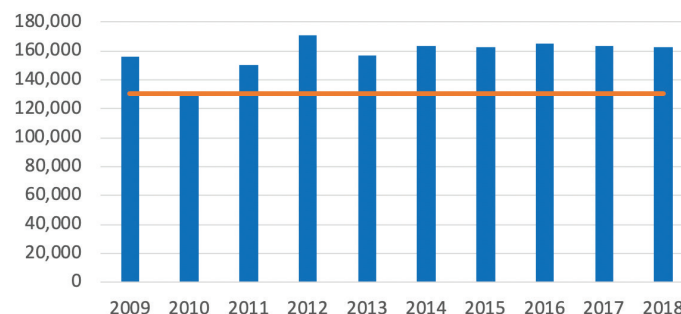
Northern Forest White-tailed Deer Harvest

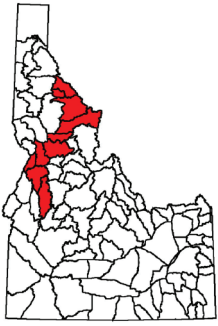


Northern Forest White-tailed Deer Hunters



Northern Forest White-tailed Deer Hunter Days





DAU 2: Central Forest

Description

This DAU includes GMUs 7, 9, 10, 12, 14, 15, 16, 18, 23, and 24. The majority of this DAU consists of coniferous forest habitat with moderate to high road densities. A large proportion of this DAU is under public (USFS) ownership. In general, northern and western portions of the DAU provide good white-tailed deer habitat, whereas the heavily forested and higher-elevation eastern portion supports white-tailed deer at much lower densities. Hunter densities, success rates, and opportunity to harvest a mature buck are all moderate.

Historical Perspective

White-tailed deer populations in this DAU were historically low. Accounts from Lewis and Clark during the 1800s suggested very few animals were found throughout the Clearwater River drainage. Populations probably did not change much until the early 1900s when fires converted large expanses of dense coniferous forest into a mosaic of vegetation-succession types. Logging also contributed to creating a mosaic of brushfields and uneven-aged forest stands. Populations probably peaked in the 1940s–1950s, followed by a slight decline. Currently, population levels are moderate.

Historically, white-tailed deer and mule deer were lumped together for harvest management under a single, general-season harvest framework. In 1973 IDFG began to offer species-specific seasons in Clearwater Region. These GMUS were open to either-sex hunting in October. During the mid-1980s hunting for whitetail bucks was extended into mid-November. In 1990 most November white-tailed deer seasons were converted to either-sex hunts.

Issues

Lack of timber harvest and wildfires, resulting in a large proportion of closed-canopy forests, is the primary habitat concern. Noxious weeds, such as yellow star-thistle (*Centaurea solstitialis*) and spotted knapweed (*C. maculosa*), are out-competing native vegetation on lower-elevation spring and winter ranges.

Management Direction

White-tailed deer are more abundant than mule deer in this DAU. Management emphasis will be to maintain white-tailed deer populations that support hunting recreation and hunter satisfaction at recent or higher levels.

Management Actions

1. Continue to offer a diversity of annual hunting opportunity for white-tailed deer across Central Forest DAU.
 - a. Offer general, either-sex, white-tailed deer seasons for all weapon types.
2. Engage with land management agencies and others to improve quality and quantity of white-tailed deer habitat.
 - a. Increase amounts of early seral habitat in areas with large tracts of mature forest.



White-tailed Deer CCBY IDFG

DAU 2: Central Forest

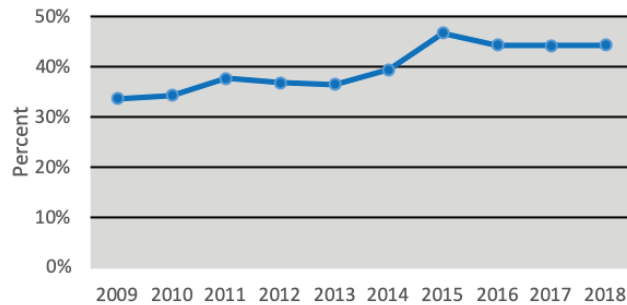
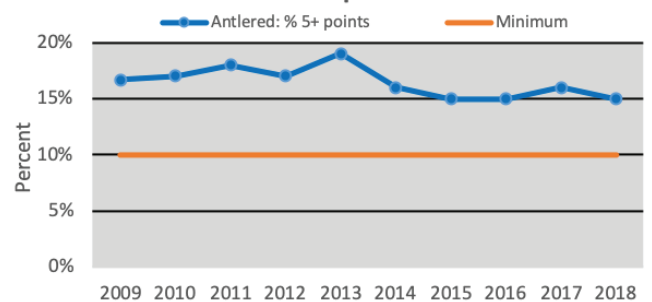
GMUs 7, 9, 10, 12, 14, 15, 16, 18, 23, 24

Objectives and Status

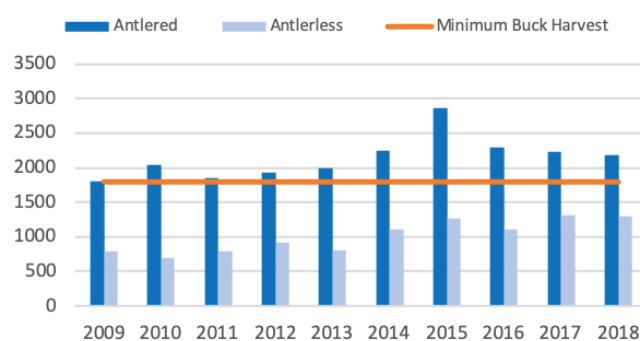
Criterion	Minimum	3-year average
Hunters	6,300	7,823
Hunter days	36,200	45,233
Buck harvest	1,800	2,234
Bucks with ≥ 5 points	10%	15%

3-year averages (2016–2018)				DAU characteristics	
Hunters	7,823	Hunter success	44%	Square miles	6,879
Hunter days	45,233	Days/harvested white-tailed deer	13	Public land	83%
Hunters/square mile	1.14	Bucks with ≥ 5 points	15%	Major land use	Forest
Harvest/square mile	0.50			Roadless area	50%

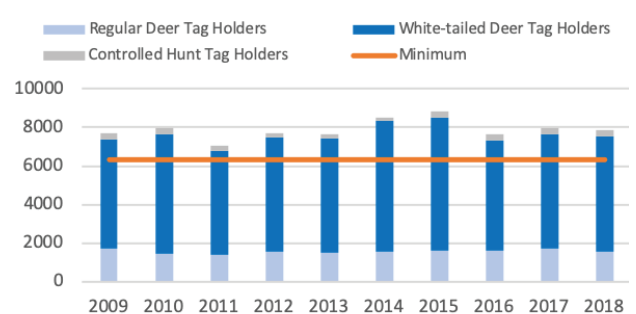
Central Forest White-tailed Deer Harvest Success

Central Forest Antlered White-tailed Deer: % ≥ 5 points

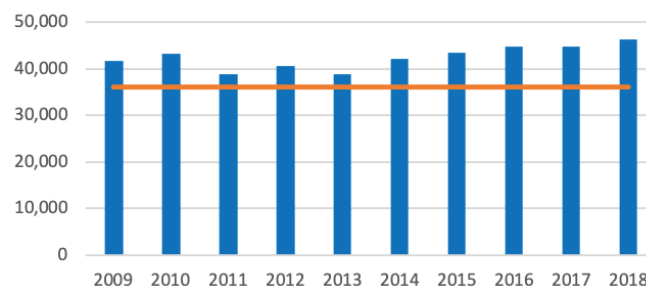
Central Forest White-tailed Deer Harvest

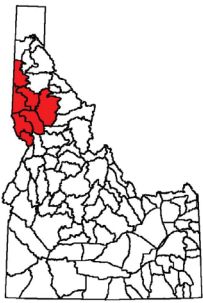


Central Forest White-tailed Deer Hunters



Central Forest White-tailed Deer Hunter Days





DAU 3: Northern Agriculture

Description

This DAU includes GMUs 5, 8, 8A, 10A, 11, 11A, and 13. The majority of this DAU consists of private, state, tribal, and federal property and is nearly equally split between dryland agriculture and coniferous forest habitats. This DAU also contains most of the Nez Perce Reservation. Road densities are moderate to high. Hunter densities, success rates, and opportunity to harvest a mature buck are amongst the highest in the state. The relatively large private property component of this DAU has led to a number of management challenges, including depredations on agricultural crops, achieving adequate antlerless harvest, and tensions between landowners and hunters over access and trespass issues.

Historical Perspective

White-tailed deer populations in this DAU were historically low. Accounts from Lewis and Clark during the 1800s suggested very few animals were found throughout the Clearwater River drainage. Populations probably did not change much until the early 1900s when large fires and settlement by humans, including grazing of domestic livestock and clearing of land for agricultural purposes, changed the landscape. Logging also converted dense coniferous forests into a mosaic of vegetation-succession types and intensified throughout the late 20th century. Currently, deer populations are at historical highs.

The Clearwater Deer Tag was required to hunt in all GMUs (except GMU 5) in this DAU between 1998 and 2004. The Clearwater tag was implemented to address trespass complaints on private property by forcing hunters to choose between hunting mule deer in southern Idaho or white-tailed deer and mule deer in Clearwater Region. Implementation of the Clearwater Tag resulted in a substantial reduction in trespass complaints.

The Clearwater Deer Tag was replaced by the White-tailed Deer Tag in 2005. Under this strategy, more flexibility was given to hunters by relaxing restrictions so that hunters with a Regular Deer Tag could again hunt in Clearwater Region (through 3 November) and holders of White-tailed Deer Tags could hunt white-tailed deer throughout the state, including late season in Clearwater Region. This change has generally been accepted by hunters in Clearwater Region.

Issues

A large white-tailed deer population is the most significant issue in this DAU. Issues associated with abundant populations include depredation to agricultural crops and disease die-offs. High-value crops damaged by white-tailed deer include wheat, barley, oats, peas, lentils, garbanzo beans, rapeseed, organic vegetables, bluegrass, and hay. Landowners establishing tree plantations, tree farms, and orchards also experience damage by white-tailed deer. The most chronic depredation complaints in this DAU involve white-tailed deer damage to legumes in GMUs 8, 8A, and 11A. These complaints intensify as legumes near harvest time.

A large-scale EHD outbreak started in the Kamiah area in late July 2003. Previously, EHD had been confirmed only once in the region, when a



White-tailed Deer CCBY Roger Phillips for IDFG

small-scale outbreak occurred near Peck in 2000. The 2003 outbreak ended with a hard frost that interrupted the *Culicoides* spp. gnat life cycle in October. Although centered on the Kamiah and Kooskia area, white-tailed deer deaths caused by EHD were observed at lower elevations along the Clearwater, South Fork Clearwater, and Salmon rivers. Although actual losses will never be known, localized losses were high (likely 20–80% in some areas) and several thousand white-tailed deer likely died. No major EHD outbreaks have been detected since 2003; however, small-scale, isolated outbreaks occur most years in parts of this DAU.

A research project overseen by the Wildlife Health Laboratory was conducted 2003–2005 to evaluate prevalence of *Culicoides* spp. gnats around Clearwater Region and perform virus isolation on these gnats, which can serve as a vector for a variety of wildlife diseases, including EHD and BT. In 2015, an outbreak of BT (type 17) occurred, with infected animals observed at low-elevation portions of Clearwater Region, including the lower Salmon, lower South Fork Clearwater, and lower main Clearwater rivers, and tributaries. Mortalities were also documented near Moscow and Troy. Although exact numbers are unknown, several hundred to a few thousand deer likely died during this outbreak. However, populations did not appear to be significantly affected, as harvest in 2015 was well above the 3-year average.

Management Direction

White-tailed deer are much more abundant than mule deer in this DAU. Management emphasis will be to maintain hunting recreation and hunter satisfaction at or near recent levels. Additionally, management actions designed to maintain adequate harvest pressure on antlerless white-tailed deer will be a priority in order to address depredation concerns and manage disease outbreaks.

During winter of 2015 IDFG, in collaboration with the University of Idaho, initiated research to develop tools for reducing white-tailed deer depredation of agricultural crops. Specific tests will include fear-increasing and

nutrition-modifying treatments. The goal of the project is to determine how various management treatments affect deer behavior and subsequent crop damage, and identify the most effective actions for reducing deer damage to agriculture.

Management Action

1. Continue to offer a diversity of annual hunting opportunity for white-tailed deer across Northern Agriculture DAU.
 - a. Offer general, either-sex, white-tailed deer seasons for all weapon types.
 - b. Offer long general seasons with late rut hunting opportunity to meet hunter desires.
2. Implement proactive population management measures to minimize white-tailed deer depredations.
 - a. Continue to use hunting as the primary tool to manage white-tailed deer impacts to agricultural crops.
 - b. Continue to offer extra antlerless controlled hunt tags in areas with depredation issues.
3. Provide support to landowners in alleviating and preventing deer damage to growing or stored crops.
 - a. Provide technical assistance to private landowners experiencing crop damage.
 - b. Develop deterrent strategies to reduce or prevent white-tailed deer use of agricultural lands.



DAU 3: Northern Agriculture

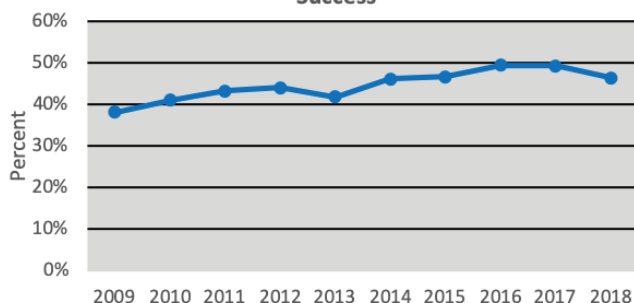
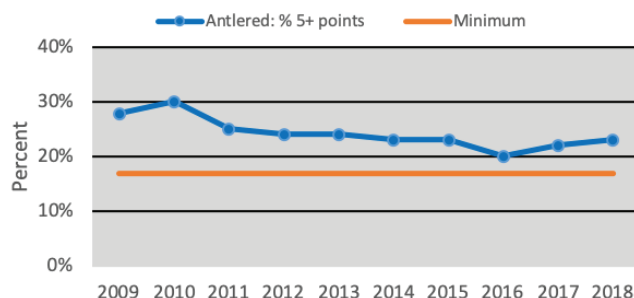
GMUs 5, 8, 8A, 10A, 11, 11A, 13

Objectives and Status

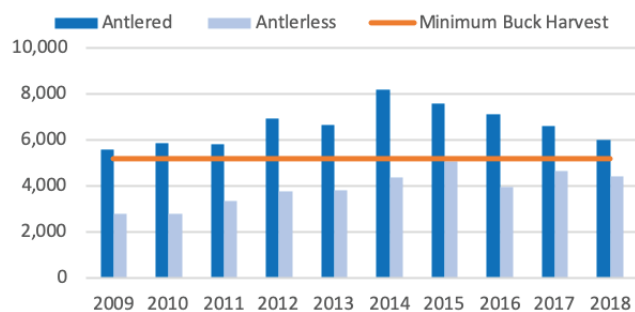
Criterion	Minimum	3-year average
Hunters	18,000	22,524
Hunter days	130,900	163,628
Buck harvest	5,200	6,555
Bucks with ≥ 5 points	17%	22%

3-year averages (2016-2018)				DAU characteristics	
Hunters	22,524	Hunter success	48%	Square miles	5,698
Hunter days	163,628	Days/harvested white-tailed deer	15	Public land	26%
Hunters/square mile	3.95	Bucks with ≥ 5 points	22%	Major land use	Agriculture
Harvest/square mile	1.91			Roadless area	1%

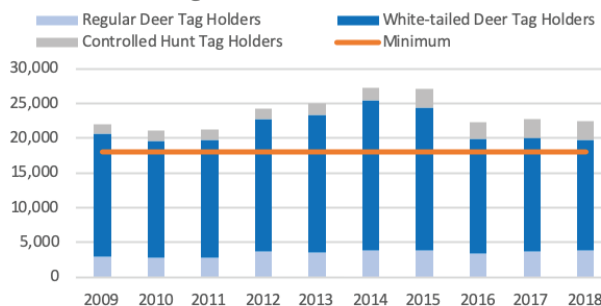
Northern Agriculture White-tailed Deer Harvest Success

Northern Agriculture Antlered White-tailed Deer: % ≥ 5 points

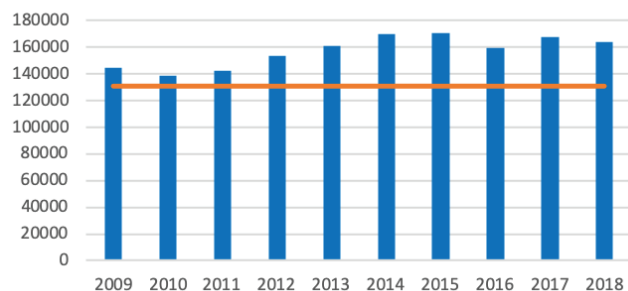
Northern Agriculture White-tailed Deer Harvest

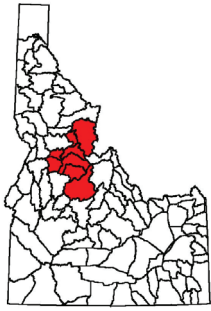


Northern Agriculture White-tailed Deer Hunters



Northern Agriculture White-tailed Deer Hunter Days





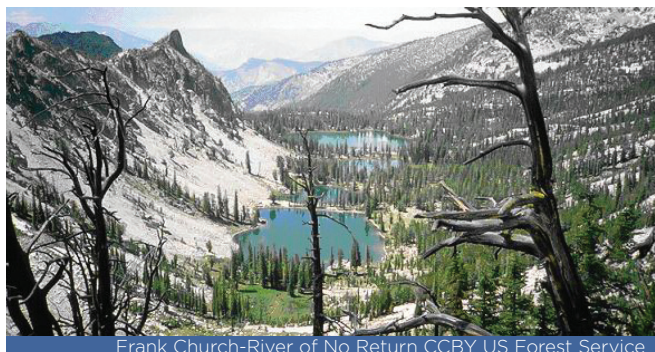
DAU 4: Backcountry

Description

This DAU includes GMUs 16A, 17, 19, 19A, 20, 20A, 26, and 27. The majority of this DAU is classified as wilderness; >99% of land is under USFS ownership. Road densities are extremely low, with most roads acting as peripheral access to Selway-Bitterroot, Gospel Hump, and Frank Church-River of No Return wilderness areas. Low road density contributes to relatively low deer vulnerability in the area. Habitat varies from mesic forest conditions in Selway River drainage to dry, open pine (*Pinus* spp.)-grassland habitat in Salmon River drainage. Hunter densities are low and any-weapon seasons are long in this DAU.

Historical Perspective

Little quantifiable information exists on present or historical white-tailed deer populations in this DAU. In the late 1980s and early 1990s, white-tailed deer and mule deer were lumped together for harvest management under a single, general, either-sex season from 15 September to 18 November. In 1997 the bag limit in GMUs south of Salmon River was changed to bucks-only in response to deer herd (primarily mule deer) declines stemming from severe winter conditions in 1992–93. The Clearwater Deer Tag was established in 1998, which affected lands in this DAU north of Salmon River. Further management changes in 2000 included converting general seasons to controlled hunts for deer south of Salmon River during more vulnerable periods in late October and November. The Clearwater Deer Tag was replaced by the White-tailed Deer Tag in



Frank Church-River of No Return CCBY US Forest Service

2005. The rugged and remote nature of this area will continue to limit impacts of humans on white-tailed deer and habitat.

Issues

White-tailed deer occur at low numbers in this DAU and support low levels of hunter participation. The relatively recent reduction in hunter participation is a direct result of a decrease in elk and elk hunters in these backcountry GMUs. Most deer harvest was historically incidental to elk hunting. The last 3 years have seen a modest increase in hunter effort and harvest, indicating a partial reversal in low elk hunter participation.

Perhaps the most significant recent habitat issue in portions of the DAU is increasing infestations of noxious weeds. This DAU also experienced an increase in wildfire over the last 10–15 years.

Management Direction

Mule deer are more abundant than white-tailed deer in this DAU. White-tailed deer populations will be maintained to support hunting recreation and hunter satisfaction at recent or higher levels.

The Department has been involved with weed-control projects in parts of the DAU, but management actions are limited by wilderness designation as well as logistical considerations. Because the area is predominately designated wilderness, very few habitat management options exist.

Management Action

1. Continue to offer a diversity of annual hunting opportunity for white-tailed deer across Backcountry DAU.
 - a. Offer general, either-sex, white-tailed deer seasons for all weapon types where populations are adequate.
2. Engage with land management agencies and others to improve quality and quantity of white-tailed deer habitat.
 - a. Reduce noxious-weed infestations where feasible.

DAU 4: Backcountry

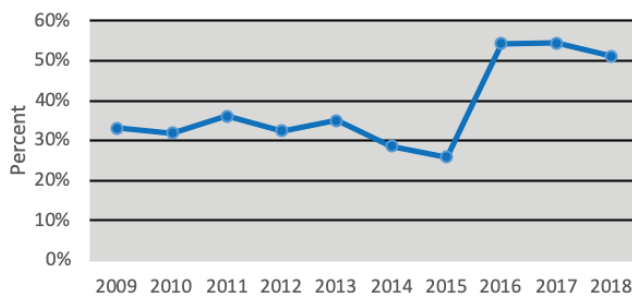
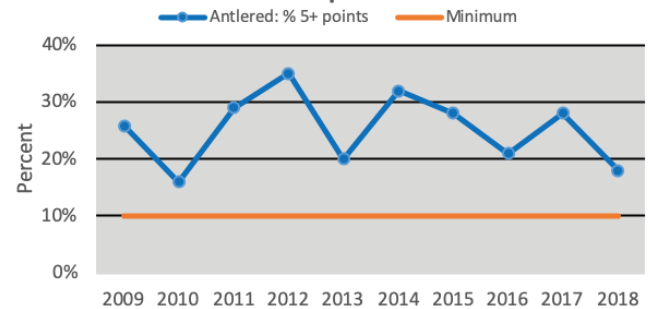
GMUs 16A, 17, 19, 19A, 20, 20A, 26, 27

Objectives and Status

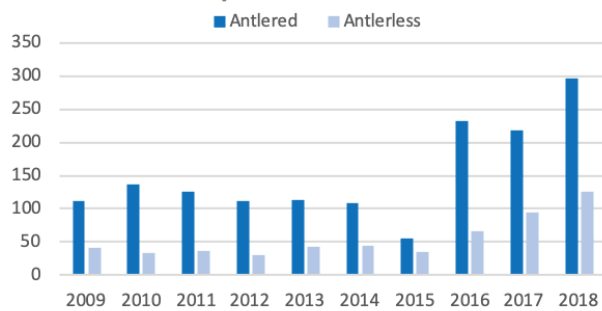
Criterion	Minimum	3-year average
Hunters	500	650
Hunter days	2,900	3,677
Bucks with ≥ 5 points	10%	22%

3-year averages (2016-2018)				DAU characteristics	
Hunters	650	Hunter success	53%	Square miles	5,873
Hunter days	3,677	Days/harvested white-tailed deer	11	Public land	>99%
Hunters/square mile	0.11	Bucks with ≥ 5 points	22%	Major land use	Forest
Harvest/square mile	0.06			Roadless area	95%

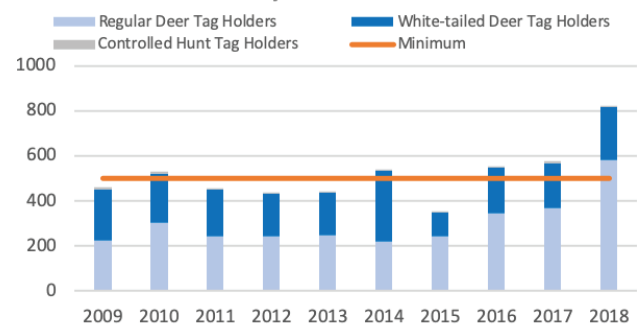
Backcountry White-tailed Deer Harvest Success

Backcountry Antlered White-tailed Deer: % ≥ 5 points

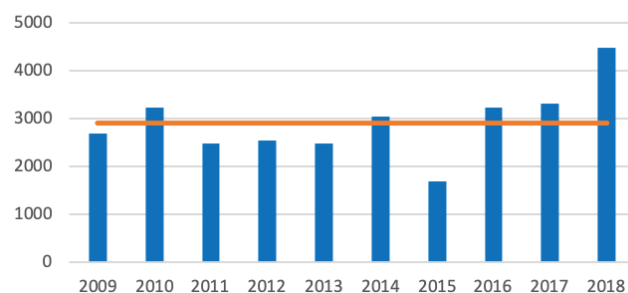
Backcountry White-tailed Deer Harvest

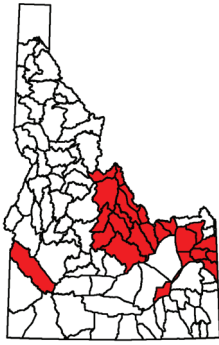


Backcountry White-tailed Deer Hunters



Backcountry White-tailed Deer Hunter Days





DAU 5: Rangeland-Riparian Habitat

Description

This DAU includes GMUs 21, 21A, 28, 29, 30, 30A, 36A, 36B, 37, 37A, 38, 50, 51, 58, 59, 59A, 60, 60A, 62, 63A, 64, 65, 67, and 68A. This DAU is a mix of several habitats, from coniferous forest to rangelands

and riparian habitats. Most white-tailed deer habitat is on private lands. White-tailed deer hunter densities are relatively low, success rates are moderate, and opportunity to harvest a mature buck is moderate.

Historical Perspective

Historical accounts indicate white-tailed deer were native to the area. At the turn of the 20th century, white-tailed deer were relatively scarce, most likely because of unregulated subsistence harvest by early settlers. In 1957 white-tailed deer were apparently reintroduced in river bottoms of the South Fork and North Fork of Snake River. However, no records of these translocations have been located. Since the early 1980s white-tailed deer have expanded their range and grown in number. They have moved farther up the South Fork and Henry's Fork of Snake River. Currently, white-tailed deer primarily exist along rivers and creeks, but have spread into thick conifer and aspen (*Populus tremuloides*) stands in some areas. Within more northern GMUs, white-tailed deer are still limited to riparian corridors along major drainages and numbers appear relatively stable.



Teton River CCBY US Bureau of Reclamation

Area residents in southern GMUs are reporting more white-tailed deer inhabit the area. There are no survey data for white-tailed deer, and existing harvest data could be misleading due to inconsistent seasons and an increased popularity of white-tailed deer hunting. However, anecdotal evidence suggests populations have increased.

Local hunters were not traditionally white-tailed deer hunters, but pursuit of white-tailed deer is gaining popularity. This increased popularity may be related to more restrictive mule deer seasons; decreased numbers of mule deer in some areas; increases in white-tailed deer populations; and attractive, liberal hunting opportunities.

Issues

Because a large proportion of white-tailed deer occur on private lands, hunter access is a significant issue when trying to manage deer populations through hunting. Similarly, apparent population increases are creating agricultural depredation issues in some areas. There is concern white-tailed deer may be encroaching on mule deer habitat and competing for forage and space, and potentially interfering with breeding.

Management Direction

White-tailed deer populations will be maintained in appropriate habitats in this DAU to support hunting recreation and hunter satisfaction at recent or higher levels.

Management Actions

1. Continue to offer a diversity of annual hunting opportunity for white-tailed deer across Rangeland-Riparian DAU.
 - a. Offer general, either-sex, white-tailed deer seasons for all weapon types where populations are adequate.
2. Provide incentives and services to landowners who allow public access for white-tailed deer hunting.
 - a. Use funds from Access Yes! program and Depredation Fee to enhance white-tailed deer hunting opportunity.

DAU 5: Rangeland-Riparian Habitat

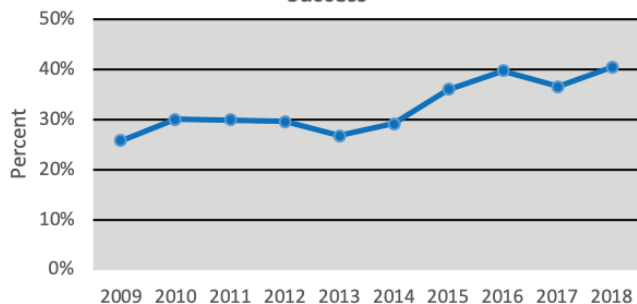
GMUs 21, 21A, 28, 29, 30, 30A, 36A, 36B, 37, 37A, 38, 50, 51, 58, 59, 59A, 60, 60A, 62, 63A, 64, 65, 67, 68A

Objectives and Status

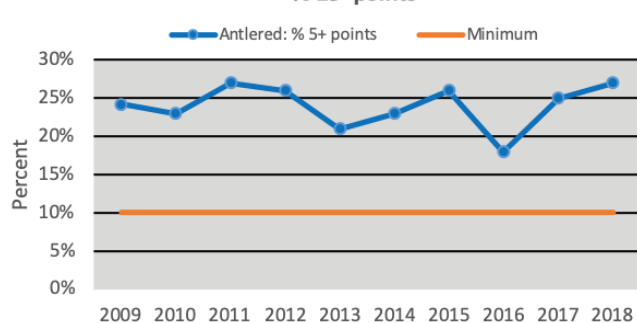
Criterion	Minimum	3-year average
Hunters	2,700	3,318
Hunter days	18,000	22,528
Bucks with ≥ 5 points	10%	24%

3-year averages (2016-2018)				DAU characteristics	
Hunters	3,318	Hunter success	39%	Square miles	15,418
Hunter days	22,528	Days/harvested white-tailed deer	17	Public land	72%
Hunters/square mile	0.22	Bucks with ≥ 5 points	24%	Major land use	Rangeland
Harvest/square mile	0.08			Roadless area	29%

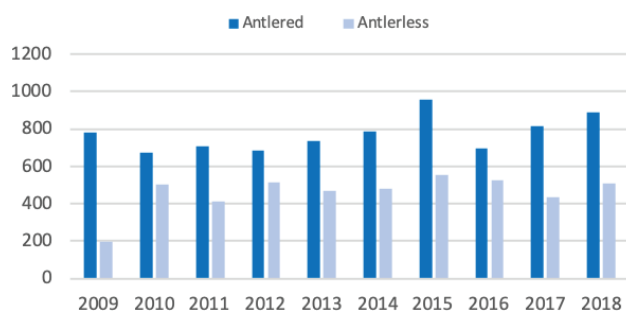
Rangeland-Riparian White-tailed Deer Harvest Success



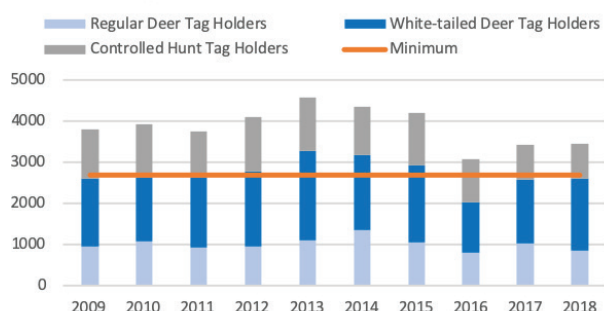
Rangeland-Riparian Antlered White-tailed Deer: ≥ 5 points



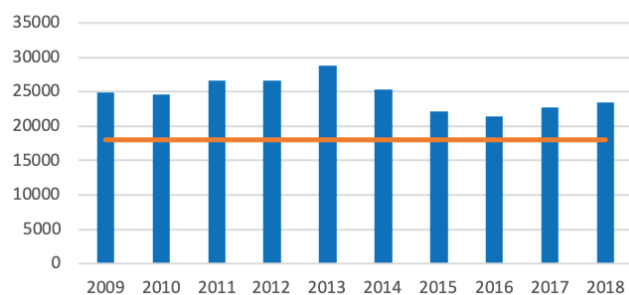
Rangeland-Riparian White-tailed Deer Harvest

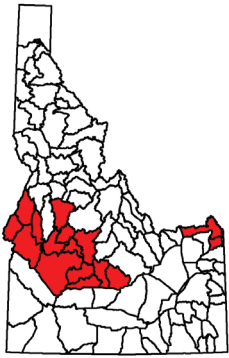


Rangeland-Riparian White-tailed Deer Hunters



Rangeland-Riparian White-tailed Deer Hunter Days





DAU 6: Dryland Forest

Description

This DAU includes GMUs 22, 25, 31, 32, 32A, 33, 34, 35, 36, 39, 43, 44, 48, 49, 61, and 62A. This DAU is generally described as having dryland-forest habitat. These habitats vary from high-elevation lodgepole pine (*Pinus contorta*) forests (GMUs 62A and 36), to mountainous terrain with Douglas-fir (*Pseudotsuga menziesii*) communities primarily on north- and east-facing slopes (GMUs 32A, 34, 35, 39, 43, and 48), to relatively open ponderosa pine (*Pinus ponderosa*) forests with grass understories (GMUs 22 and 25). Road densities are moderate and approximately 75% of the DAU is in public ownership. White-tailed deer densities are low and harvest comprises <1% of statewide harvest.

Historical Perspective

Historically, white-tailed deer numbers have remained low in this DAU. Habitats are generally better suited for mule deer. In GMUs 22, 25, and 33, white-tailed deer have increased slightly in recent years and are now common in places, but overall densities remain low. In GMUs 61 and 62A, white-tailed deer are generally associated with riparian habitats along the Henry's Fork, Camas Creek, and tributaries; densities have remained low and stable. White-tailed deer are rarely observed in GMUs 34, 35, 39, 43, 44, 48, and 49.

Historically, hunting seasons encompassed both mule deer and white-tailed deer, and allowed take of either species.

Issues

Because white-tailed deer occur at low densities in this DAU, most evidence of population increases comes from hunter reports or incidental observations. Some GMUs in this DAU do not currently offer white-tailed deer hunting opportunities because white-tailed deer numbers are too low to warrant such opportunity. Where there is evidence of growing

populations, or populations sufficient to provide harvest opportunity, hunting regulations will be structured to allow generous harvest of both antlerless and antlered animals.

Management Direction

Potential for increasing white-tailed deer populations in DAU 6 is limited by habitat and elevational constraints. In most of the DAU, future increases in white-tailed deer numbers will be associated with riparian habitats along major drainages. Mule deer will continue to receive primary management emphasis and white-tailed deer densities and harvest are expected to remain low. The goal in this DAU will be to provide annual hunting opportunity, including antlerless harvest where possible.

Management Actions

1. Continue to offer a diversity of annual hunting opportunity for white-tailed deer in portions of Dryland Forest DAU.
 - a. Offer general, either-sex, white-tailed deer seasons for all weapon types where populations are adequate.



DAU 6: Dryland Forest

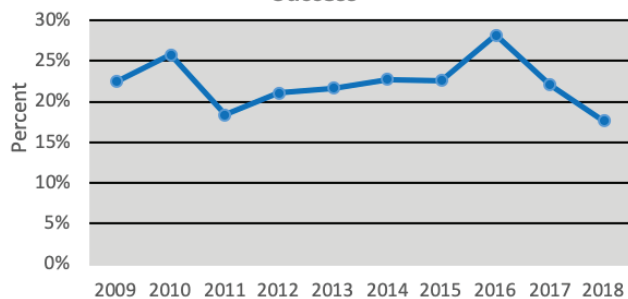
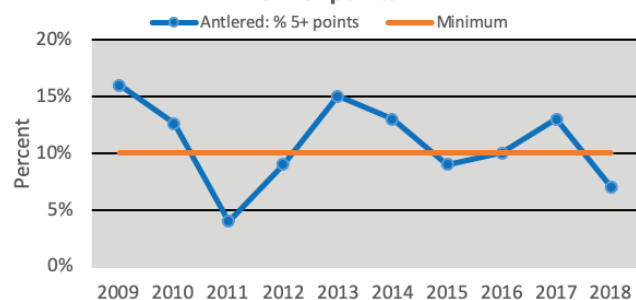
GMUs 22, 25, 31, 32, 32A, 33, 34, 35, 36, 39, 43, 44, 48, 49, 61, 62A

Objectives and Status

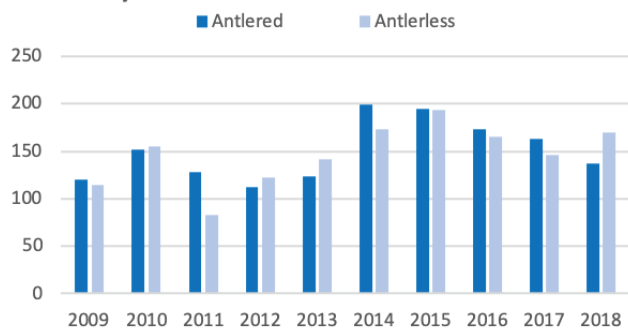
Criterion	Minimum	3-year average
Hunters	1,200	1,448
Hunter days	6,000	7,546
Bucks with ≥ 5 points	10%	10%

3-year averages (2016-2018)				DAU characteristics	
Hunters	1,448	Hunter success	22%	Square Miles	13,055
Hunter days	7,546	Days/harvested white-tailed deer	24	Public land	75%
Hunters/square mile	0.11	Bucks with ≥ 5 points	10%	Major land use	Forest
Harvest/square mile	0.02			Roadless area	35%

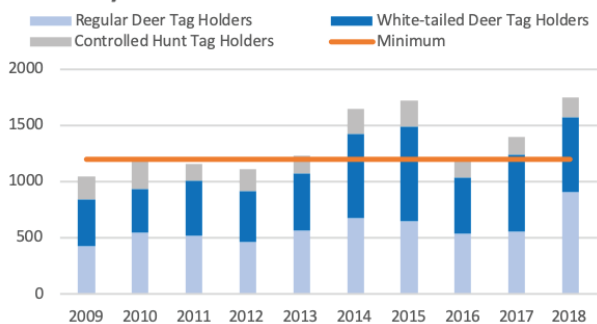
Dryland Forest White-tailed Deer Harvest Success

Dryland Forest Antlered White-tailed Deer: % ≥ 5 points

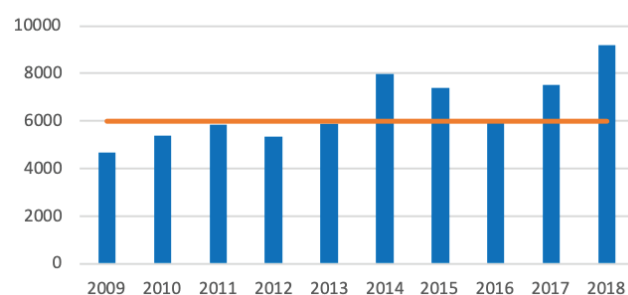
Dryland Forest White-tailed Deer Harvest



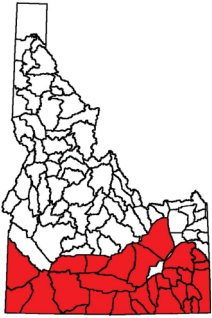
Dryland Forest White-tailed Deer Hunters



Dryland Forest White-tailed Deer Hunter Days



DAU 7: Southern Idaho



Description

This DAU (GMUs 40, 41, 42, 45, 46, 47, 52, 52A, 53, 54, 55, 56, 57, 63, 66, 66A, 68, 69, 70, 71, 72, 73, 73A, 74, 75, 76, 77, and 78) represents a wide spectrum of productivity from dry rangeland

to irrigated agriculture. High-productivity areas include major riparian areas such as Snake River drainage, irrigated agricultural areas, and high-elevation forests. Predominant vegetation types in this DAU include dry shrub, cool shrub, and agricultural. Approximately 7% of the DAU is comprised of riparian woodland, riparian shrub, and cold forest vegetation types. Current vegetation communities are a result of agricultural practices, fire suppression, and urban development. Riparian areas shrank and became fragmented due to development and grazing practices. Frequency of landscape-level fires has increased throughout this DAU and influenced vegetation communities towards noxious annuals.

Approximately 58% of land in this DAU is publicly owned. The BLM administers the majority of public lands, whereas USFS and IDL administer nearly equal amounts of remaining public land. Other significant non-private ownership consists of Department of Energy land (primarily Idaho National Laboratory) and Bureau of Indian Affairs land, primarily Fort Hall and Duck Valley reservations. Approximately 34% of the DAU is comprised of private land. Rangeland is the predominant land use, comprising approximately 59% of the DAU. Other significant land uses include dryland agriculture, irrigated agriculture, and forest lands.

White-tailed deer distribution has slowly increased over the past several decades in this DAU. Movement along riparian corridors expanded white-tailed deer distribution and population numbers have increased in some areas. White-tailed deer populations have potential to increase with improved irrigation technology and conversion to agricultural

commodities. White-tailed deer remain uncommon and are secondary to mule deer with regard to hunter preference.

Historical Perspective

White-tailed deer populations in this DAU have historically been low to non-existent. There are no accounts of white-tailed deer in Osborne Russell's "Journal of a Trapper" during the 1800s (Russell 1965). White-tailed deer populations remained, for the most part, non-existent until human settlement, which brought grazing and land clearing for agricultural purposes. These practices provided water and forage suitable for white-tailed deer.

White-tailed deer and mule deer were historically lumped together for management purposes. For the most part, this DAU continues to be primarily managed for mule deer, with the exception of some hunting opportunities specifically for white-tailed deer in Upper Snake Region.

Issues

Because white-tailed deer remain scarce to non-existent in most of this DAU, depredation issues and other conflicts are minimal. There is some public concern regarding potential competition between mule deer and white-tailed deer.

Management Direction

Mule deer are more abundant than white-tailed deer in this DAU. Management emphasis will remain focused on mule deer. However, current objectives are to maintain white-tailed deer populations that support hunting recreation and hunter satisfaction at recent or higher levels.

Management Actions

1. Continue to offer a diversity of annual hunting opportunity for white-tailed deer in portions of Southern Idaho DAU.
 - a. Offer general, either-sex, white-tailed deer seasons for all weapon types where populations are adequate.
2. Continue to compile incidental observations and reports of white-tailed deer presence.

DAU 7: Southern Idaho

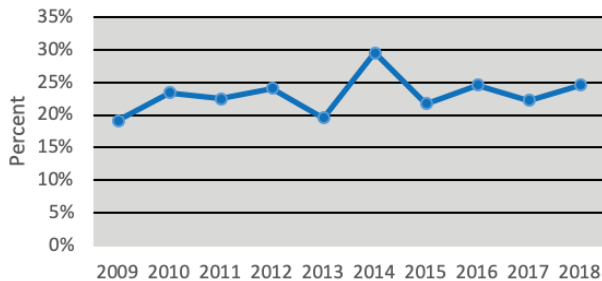
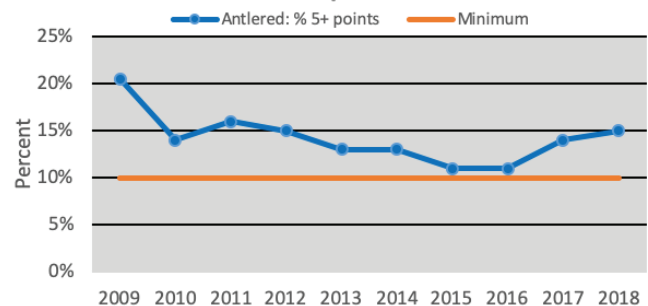
GMUs 40, 41, 42, 45, 46, 47, 52, 52A, 53, 54, 55, 56, 57, 63, 66, 66A, 69, 70,
71, 72, 73, 73A, 74, 75, 76, 77, 78

Objectives and Status

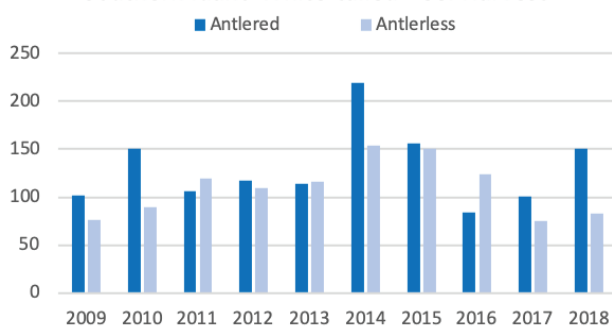
Criterion	Minimum	3-year average
Hunters	700	860
Hunter days	3,000	3,765
Bucks with ≥ 5 points	10%	14%

3-year averages (2016-2018)				DAU characteristics	
Hunters	860	Hunter success	24%	Square miles	30,255
Hunter days	3,765	Days/harvested white-tailed deer	18	Public land	62%
Hunters/square mile	0.03	Bucks with ≥ 5 points	14%	Major land use	Rangeland
Harvest/square mile	0.01			Roadless area	6%

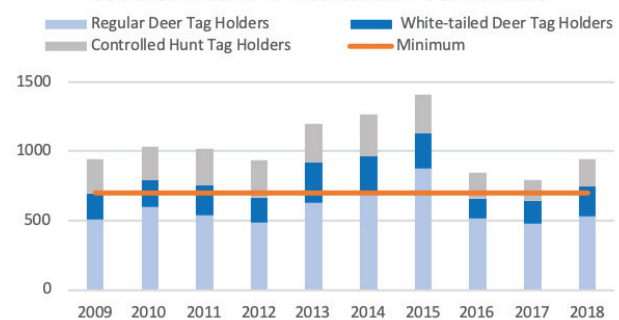
Southern Idaho White-tailed Deer Harvest Success

Southern Idaho Antlered White-tailed Deer: % ≥ 5 points

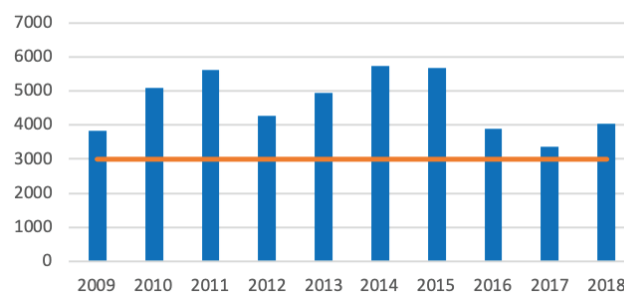
Southern Idaho White-tailed Deer Harvest



Southern Idaho White-tailed Deer Hunters



Southern Idaho White-tailed Deer Hunter Days



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APPENDIX A

2018 Idaho White-tailed Deer Hunter Survey



White-tailed Buck CCBY IDFG

White-tailed Deer Hunting in Idaho

Understanding the needs and experiences of hunters

First, some questions about your hunting behavior.

Please check only one answer for questions 1 through 3 below.

1. I have hunted for white-tailed deer in Idaho:

- ☐ Never
- ☐ 1-5 years
- ☐ 6-10 years
- ☐ Over 10 years

2. I have hunted for mule deer in Idaho:

- ☐ Never
- ☐ 1-5 years
- ☐ 6-10 years
- ☐ Over 10 years

3. When I go deer hunting in Idaho, I spend most of my time hunting for:

- ☐ Mule Deer
- ☐ White-tailed Deer

Now, some questions about your Idaho White-tailed Deer hunt.

4. Did you harvest a white-tailed deer in Idaho in the 2017 season?

(Please check only one response)

- ☐ I did not hunt white-tailed deer in Idaho in 2017
- ☐ No, I did not harvest a white-tailed deer in Idaho in 2017



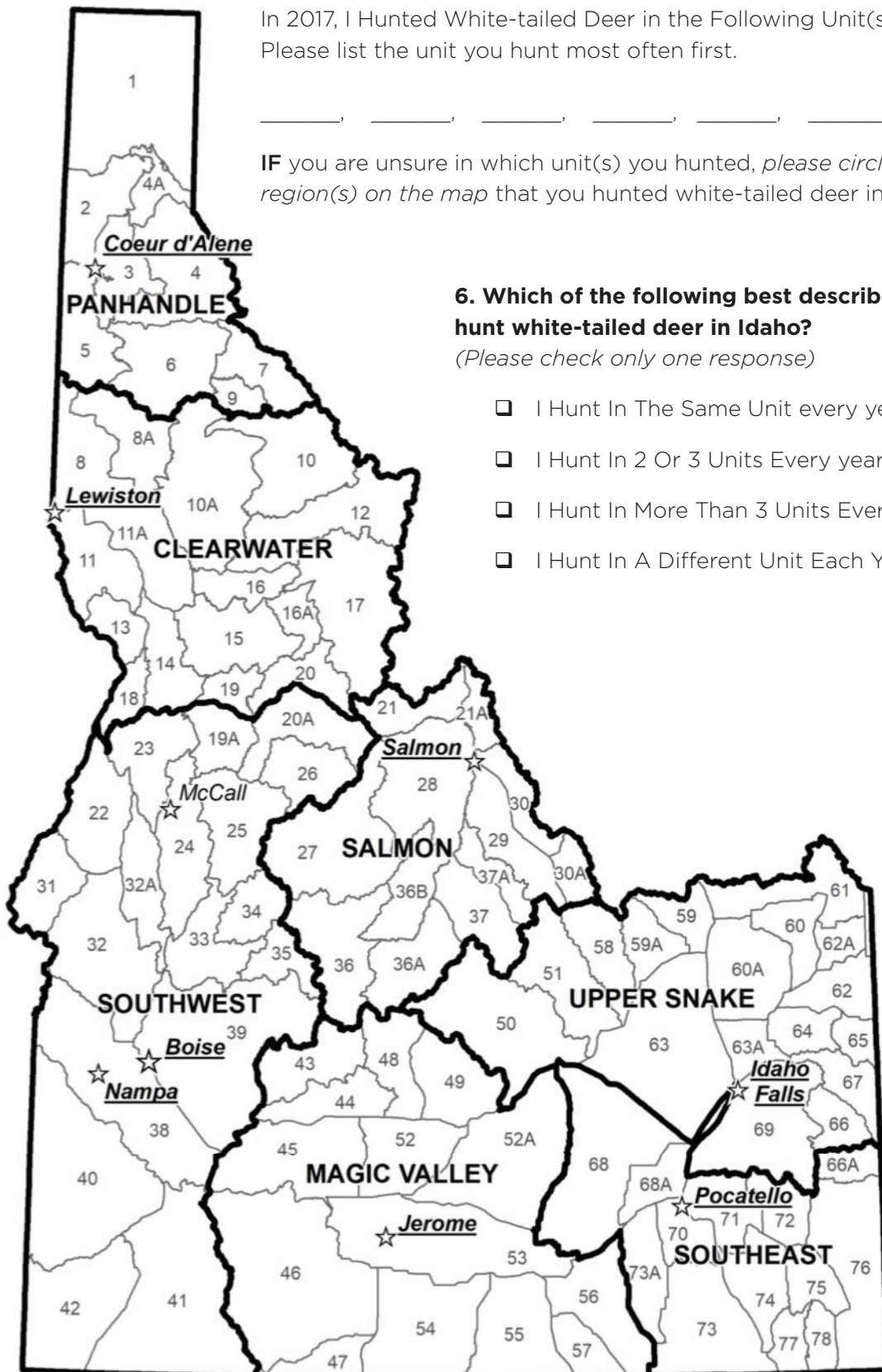
- ☐ Yes, what did you harvest? *(Please check **all** that apply)*
 - ☐ Large white-tailed Buck (antlers extend outside the ears, 5 or more points a side)
 - ☐ Medium white-tailed Buck (antlers not wider than the ears, 3 - 4 points a side)
 - ☐ Small white-tailed Buck (1 - 2 points a side)
 - ☐ Antlerless white-tailed Deer (doe or fawn)

5. In which unit(s) did you hunt white-tailed deer in Idaho during 2017? *(Please refer to the map)*

☐ I did not hunt white-tailed deer in Idaho in 2017 *(Please skip to question 6 below)*

In 2017, I Hunted White-tailed Deer in the Following Unit(s):
Please list the unit you hunt most often first.

IF you are unsure in which unit(s) you hunted, *please circle the name(s) of the region(s) on the map* that you hunted white-tailed deer in during 2017.



6. Which of the following best describes where you typically hunt white-tailed deer in Idaho?

(Please check only one response)

- ☐ I Hunt In The Same Unit every year
- ☐ I Hunt In 2 Or 3 Units Every year
- ☐ I Hunt In More Than 3 Units Every year
- ☐ I Hunt In A Different Unit Each Year

Private Property Issues: Depredations, Trespass, Access

High numbers of white-tailed deer on some private property are resulting in significant agricultural crop damage. The Department also receives numerous complaints involving damage to gardens and ornamental shrubs and animal-vehicle collisions due to deer.

Several social issues make it difficult to address the problem of too many deer on private property. These include:

- 1) landowner concerns with hunter numbers, ethics, and trespass;
- 2) some landowners not allowing hunter access which results in a deer sanctuary situation; and
- 3) hunter concerns regarding lack of access to private property (resulting in hunters shifting to adjacent public lands).

For the remaining survey please circle only one response that best describes how you feel about the statement made.

How much do you agree or disagree with the following statements?
(Please circle one response for each statement)

7. IDFG should reduce antlerless white-tailed deer on private land to resolve depredation problems.

Strongly Agree Agree Neutral Disagree Strongly Disagree

8. IDFG should spend substantially more time and resources developing access onto private land for the purpose of hunting white-tailed deer.

Strongly Agree Agree Neutral Disagree Strongly Disagree

Hunting Opportunities

Hunting for white-tailed deer may include opportunities such as long seasons, hunting of bucks and does at the same time, the opportunity to take a mule deer if one is encountered, hunting during the rut, and overlap with the elk season. Most white-tailed deer seasons include portions of October and November.

How much do you agree or disagree with the following statements?
(Please circle one response for each statement)

9. I am satisfied with the number of days of white-tailed deer hunting opportunity offered.

Strongly Agree Agree Neutral Disagree Strongly Disagree

10. I am satisfied with my chance to harvest a white-tailed deer.

Strongly Agree Agree Neutral Disagree Strongly Disagree

How much do you agree or disagree with the following statements?
(Please circle one response for each statement)

11. It is important for me to be able to hunt for white-tailed deer at the same time and place as elk.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
12. It is important for me to be able to hunt for white-tailed deer at the same time and place as mule deer.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
13. It is important for me to be able to hunt white-tailed deer in early November.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
14. It is important for me to be able to hunt white-tailed deer in late November.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
15. It is important for me to be able to hunt a white-tailed buck every year.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

Buck Management

Some hunters report encountering fewer and/or smaller bucks than they desire. While the current white-tailed deer management plan objective for the percent of 5-point or larger bucks in the harvest is being met, the Department is receiving input from some hunters wanting to restrict seasons to attempt to increase buck quality.

How much do you agree or disagree with the following statements?
(Please circle one response for each statement)

16. I am satisfied with my chance to harvest a white-tailed buck.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
17. I am satisfied with my chance to harvest a mature white-tailed buck.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
18. Some units should be managed for large white-tailed bucks, even if it means shorter seasons or controlled hunts. Realizing I might not get to hunt a buck every year, I would accept these types of restrictions in the unit that I hunt.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

Finally, some questions about your satisfaction with white-tailed deer hunting in 2017.

19. How satisfied were you with each of the following aspects of your 2017 white-tailed deer hunting experience?

☐ I did not hunt white-tailed deer in Idaho in 2017 (Please go to the end of the survey.)

Characteristics of Your 2017 Idaho White-tailed Deer Hunting Experience

How satisfied were you with your 2017 Idaho white-tailed deer hunting experience?
(Please circle one response for each statement)

A. The length of the season	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
B. The timing of the deer season	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
C. The number of other hunters you encountered	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
D. The amount of access	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
E. The overall quality of your white-tailed deer hunting experience	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied

20. If you were “Very Dissatisfied” with any of the characteristics in question 19 please tell us why.
(Please write in your reasons)

Is there anything else you’d like to tell us about hunting white-tailed deer in Idaho?
We would appreciate any comments.

Thank You

APPENDIX B

Idaho White-tailed Deer Hunter Survey Results

Executive Summary

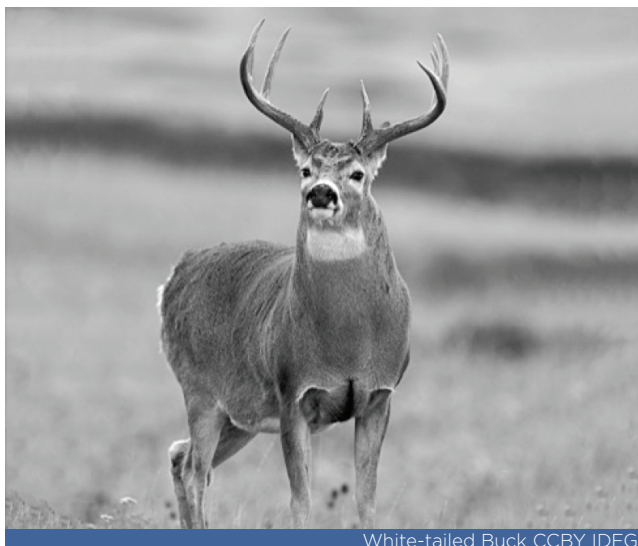
In 2018, 2,922 white-tailed deer hunters responded to our mail survey. An additional 3,757 hunters responded to our email survey and 1,057 hunters submitted responses via the internet. In 2003, 740 deer hunters responded to a standard mail survey. For consistency with the 2003 analysis, responses from 2018 were post-stratified based on region where individuals hunted. The initial sampling scheme for 2018 was based on where individual hunters lived (not necessarily where they hunted). Therefore, we determined regions where individuals hunted based on responses in hunter reports. Even though we knew most hunters from northern Idaho pursued white-tailed deer and most hunters from southern Idaho pursued mule deer, for sampling purposes of the 2003 survey, we were unable to clearly differentiate between the 2 groups because most tags were valid for either species (i.e., we could not specifically sample white-tailed deer hunters). Thus, many mule deer hunters received the 2003 survey, which complicated analysis across years. Therefore, to make meaningful comparisons between surveys, we limited our 2003 sample to individuals who self-identified as primarily white-tailed deer hunters (n = 392 individuals).



White-tailed Doe CCBY IDFG

Experience Level (Q 1-3)

In 2018 slightly more than one-half (52%) of survey respondents reported >10 years of experience hunting white-tailed deer in Idaho. Approximately one-third (31%) of respondents never hunted mule deer in Idaho, whereas approximately one-third (37%) had hunted mule deer in Idaho for >10 years. Most hunters (79%) said they spent most of their time hunting for white-tailed deer in Idaho.



White-tailed Buck CCBY IDFG

surveys (60% vs. 70%). Across surveys, hunters placed greater importance on 1) ability to hunt elk concurrently with white-tailed deer (55% vs.

59%); 2) ability to hunt white-tailed deer in early November (73% vs. 75%); and 3) ability to hunt white-tailed deer in late November (66% vs. 77%).

Though not asked in 2003, most respondents (76%) in 2018 felt opportunity to hunt a white-tailed buck every year was important.

Importance of ability to concurrently hunt white-tailed deer and mule deer

slightly declined over time (56% vs. 54%).

2017 Harvest (Q 4 and 4A)

During the 2017 hunting season 39% of respondents harvested deer. The most frequently harvested animals were medium bucks and antlerless deer. Questions about recent harvest were not asked in 2003.

Where They Hunt (Q 5 and 6)

For survey respondents, the 5 most popular GMUs hunted in 2017 were 1, 2, 3, 8A and 10A. In 2018 slightly more than one-half (52%) of survey respondents reported they hunted for white-tailed deer in the same GMU every year (not asked in 2003).

Antlerless Harvest and Access to Private Land (Q 7 and 8)

Support for reducing numbers of antlerless white-tailed deer on private land to resolve depredation problems was similar across surveys (38–40%).

Most 2018 respondents (60%) agreed IDFG should spend more time and resources developing access onto private land for hunting (not asked in 2003).

Hunt Opportunity (Q 9, 11–15)

Proportion of hunters reporting satisfaction with days of hunting opportunity increased between

Hunter Satisfaction (Q 10, 16–18)

Hunter satisfaction with regard to harvest opportunities increased through time. Specifically, more hunters were satisfied with their opportunity to harvest 1) a white-tailed deer (56% vs. 72%); 2) a whitetail buck (53% vs. 71%); and 3) a mature whitetail buck (51% vs. 58%).

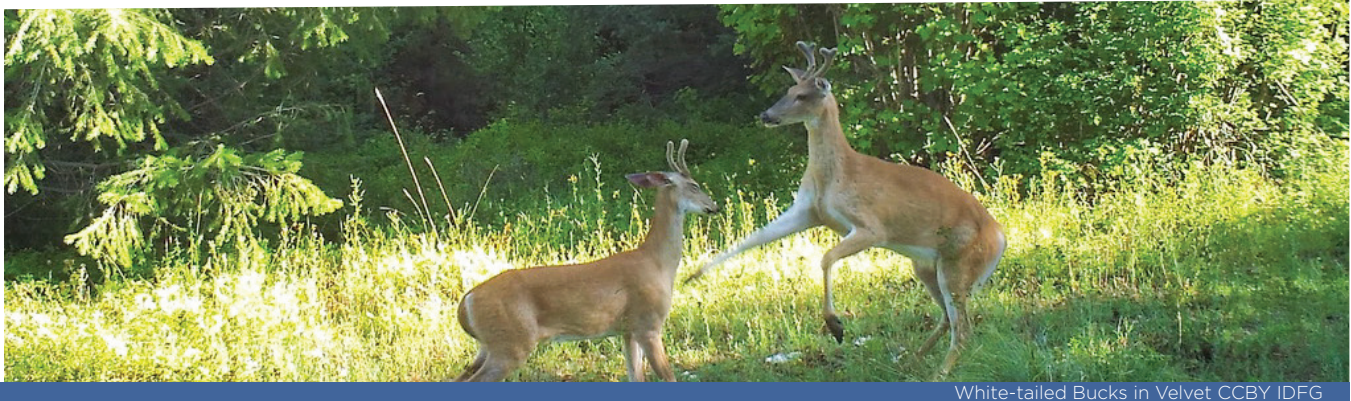
Fewer respondents in 2018 were willing to accept more restrictive hunting opportunities (e.g., shorter seasons or controlled hunts) to manage for large whitetail bucks (42% opposed the concept). However, one-third of hunters favored management for large bucks, despite greater restrictions on hunting opportunity.

2017 Hunting Experience (Q 19)

Hunters voiced relatively high satisfaction levels for 5 aspects of their 2017 hunting experiences: amount of access; length of season; number of hunters; quality of experience; and timing of season. Among these factors, combined satisfied and neutral responses ranged 73–91%; in all cases, significantly more respondents were satisfied than dissatisfied. We did not ask this question in 2003.

APPENDIX C

Hunter Congestion Concepts



White-tailed Bucks in Velvet CCBY IDFG

Most white-tailed deer hunters did not identify hunter congestion as a major issue in the white-tailed deer hunter survey. When asked about their satisfaction with hunter numbers, 46% were satisfied, 28% were neutral, and 25% were not satisfied. Of white-tailed deer hunters who voiced dissatisfaction with their hunt in 2017 ($n = 468$, 16%), only 89 (3% of all respondents and 19% of dissatisfied hunters) identified hunter congestion as the cause. Regardless, increases in white-tailed deer hunters and popularity of some GMUs can lead to higher hunter densities and reduced hunter satisfaction (e.g., GMU 10A).

In contrast to the white-tailed deer survey, 45% of respondents to the mule deer hunter survey said hunter congestion negatively affected their hunt in 2016. This response echoed results of the previous mule deer hunter survey (2007). Because hunter congestion is a continuing issue for mule deer hunters, the mule deer planning team is developing options to reduce congestion. Because changes to seasons for one big game species may alter hunter distribution and density elsewhere, a comprehensive approach (i.e., considering season structure for all deer and elk hunting) is necessary to effectively address hunter congestion issues.

A central focus of the Department is to address hunter congestion while maintaining as much opportunity as possible, a key desire expressed by hunters in their survey responses. Because most white-tailed deer hunters indicated they were satisfied with current season structure, that structure should be preserved as much as possible. On a statewide basis, current deer season structure helps reduce congestion by limiting an individual's ability or time to hunt in both southern and northern Idaho during the same year.

Most of these proposed approaches would likely reduce existing hunter numbers slightly. The only approach that would definitively limit hunter numbers is a zone system with caps. Other approaches are vulnerable to displacing hunters or converting mule deer hunters into white-tailed deer hunters.

All approaches would require changes in how nonresident deer hunters are distributed across Idaho. Currently, nonresident deer hunters can purchase a limited number of regular and white-tailed deer tags (14,000). When those are sold out, an additional 1,500 white-tailed deer tags are available for purchase. Many of these approaches will require dividing the current statewide nonresident allocation by tag type, region, DAU, or GMU. The Department is committed to addressing hunter congestion in a comprehensive fashion and will be cooperating with the University of Idaho to survey hunters in 2020–2023 to gauge their desire and tolerance for various solutions.

Current Structure

Advantages
Hunters have flexibility in species and area
Availability of long, either-sex, seasons that allow use of multiple weapon types
Aligned with hunters desires

Disadvantages
May not address hunter congestion issues on a statewide level
Allows hunters to hunt southern Idaho and northern Idaho for both mule deer and white-tailed deer

Separate Species Deer Tags

The regular deer tag would be converted to a mule deer tag. Hunters would have to choose which species they want to pursue. This approach would eliminate some hunters who hunt in northern Idaho for white-tailed deer with regular deer tags (before 4 Nov in Clearwater Region or season-long in Panhandle Region). For white-tailed deer tag holders, a separate species tag would eliminate opportunity to pursue mule deer in some GMUs, but maintain current white-tailed deer hunting opportunities.

Advantages
Reduces hunter movement at a small scale
Improve harvest data collection (obtain species-specific hunter effort)
No change for current Clearwater Region white-tailed deer hunters

Disadvantages
Does not address potential shift of mule deer hunters to white-tailed deer hunting
May reduce management options for white-tailed deer in southern Idaho
Eliminates flexibility for hunting both species.
Not aligned with hunter desires
Requires creation of mule deer-only seasons in some places

Northern Idaho and Southern Idaho Tags

This approach is similar to the region or DAU tag, but forces hunters to choose between northern and southern Idaho, eliminating the ability to hunt both during the same year. Similar to other approaches, the primary impact would be eliminating opportunity for those hunters who currently travel to take advantage of opportunities in both portions of the state. Current season structures could be maintained, including opportunities to hunt both species where appropriate.

Advantages
Reduces hunter movement at a large scale
Limited impact for many northern Idaho hunters
Maintains flexibility for either-species hunting
May only affect a small number of hunters who want to hunt in both northern and southern Idaho

Disadvantages
Does not address shift of mule deer hunters to white-tailed deer hunting
Does not give hunters flexibility to move throughout the state
Not aligned with hunters desires
May not significantly reduce hunter congestion

Zone System (without caps on hunter numbers)

Under this approach, hunters must select a single zone to hunt. As currently applied to elk hunting, a zone system alters hunter distribution in 2 ways: limiting hunters to 1 geographic area, and separating hunters among different seasons (e.g., weapon types, bag limits, season timing). Impacts of a zone system on deer hunter distribution, density, and mobility would largely depend on size of zones and comparative attractiveness of different combinations of hunting opportunity.

Advantages
Flexibility to hunt both species within a zone
Reduces hunter movement and may reduce congestion
May not require changes in overall season length or opportunity

Disadvantages
May not address hunter congestion
Restricts where and when individuals can hunt; increases regulations complexity
Not aligned with hunters desires
May reduce hunter participation

Zone System (with caps on hunter numbers)

Placing a cap on hunter numbers in a geographic area offers the most effective tool for addressing hunter congestion, but also represents the largest departure from current season structures which provide high levels of satisfaction for white-tailed deer hunters. Caps on hunter numbers would likely only be implemented if a zone system without caps failed to address hunter congestion.

Advantages
Can address hunter congestion
Flexibility to hunt both species within a zone
May not require changes in overall season length or opportunity

Disadvantages
Restricts where and when individuals can hunt; increases regulations complexity
Not aligned with hunters desires
May reduce hunter participation



Hunting in the snow. CCBY Roger Phillips for IDFG

Split Season

Assuming most hunter congestion occurs during the rut (Nov), forcing white-tailed deer hunters to select between 2 shorter hunting seasons during the rut should reduce hunter density in each segment. This option still allows hunting during the rut, but for fewer days.

Split seasons could be implemented on a large scale (e.g., region or DAU), or smaller scale to target GMUs with high hunter density (i.e., 2, 3, 5, 8, 8A, 10A). Any variety of split-season lengths and timing are possible (e.g., 10 Oct-10 Nov and 11 Nov-1 Dec, 10 Oct-15 Nov and 16 Nov-1 Dec). Seasons could be split based on likelihood of harvest (e.g., dividing the 10 consecutive days of peak harvest and allowing hunters to choose between hunting the first or second portion of peak harvest).

Advantages
May reduce hunter congestion
Portion of season coincides with elk season

Disadvantages
Hunters may all select the same season
Not aligned with hunters desires
Does not limit total number of hunters
Limits number of hunting days
Increases regulations complexity

Stratify Elk and Deer Hunters

Reducing options for concurrently hunting deer and elk could reduce perceptions of hunter congestion, but also reduces ability to hunt both species groups during the same hunting trip, an opportunity considered important by many hunters. This approach would require shortening some elk hunts and most deer hunts. In northern Idaho, elk season might occur 5-28 Oct (or some similar variant) and white-tailed deer season could take place during November.

Advantages
May reduce hunter congestion
Could maintain November white-tailed deer seasons
Allows white-tailed deer hunter mobility
Potentially reduces crowding during elk seasons

Disadvantages
May reduce some mule deer harvest options in northern Idaho
Not aligned with hunters desires
Does not limit total number of hunters
Eliminates both elk and deer hunters' ability to hunt both species at the same time.
May reduce overall elk and deer hunter participation



Idaho
White-tailed Deer
Management Plan 2020-2025